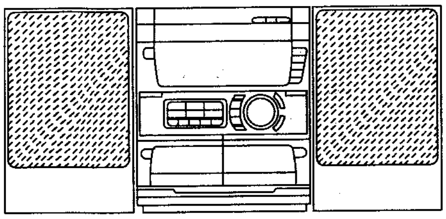
aiwa

AIWA-02399

aiwa
SERVICE

NSX-A72
NSX-A74



COMPACT DISC STEREO
CASSETTE RECEIVER

- BASIC TAPE MECHANISM : 2ZM-3MK2 PR4NM
- BASIC CD MECHANISM : 4ZG-1 Z1DNM
- TYPE : U

SYSTEM	CD CASSEIVER	SPEAKER	REMOTE CONTROLLER
NSX-A72	CX-NA71 (TYPE : U)	SX–ANA72	RC - 7AS08
NSX-A74		SX–NA74 SX-R240	

- If requiring information about the CD mechanism, see Service Manual of 4ZG-1.
S/M Code No. 09-974-187-50T.
- This Service Manual contains information about the difference between NSX-A72 (U), NSX-A74 (U) and NSX-A71 (U). If requiring the other information, see Service Manual of NSX-A71 (U).
S/M Code No. 09-973-182-5FP. 2398

2399

S/M Code No. 09–976–207–0FP

SERVICE MANUAL

SPECIFICATIONS

<FM Tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity(IHF)	13.2 dBf
Antenna terminals	75 ohms (unbalanced)

<MW Tuner section>

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 uV/m
Antenna	Loop antenna

<Amplifier section>

Power output	Rated 100 W + 100 W (50Hz - 20kHz, T.H.D. less than1%, 6 ohms)
Total harmonic distortion	0.05% (90 W, 1 kHz, 6 ohms, DIN AUDIO)
Inputs	VIDEO/AUX : 210 mV(adjustable) MD : 210mV (adjustable) MIC 1,MIC 2: 1.4mV (10 kohms)
Outputs	LINE OUT: 200mV SUPER WOOFER: 2.4 V SPEAKERS: accept speakers of 6 ohms or more SURROUND SPEAKERS: accept speakers of 16 ohms or more PHONES (stereo jack) : accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	CRo$_2$ tape: 50 Hz – 16000 Hz Normal tape: 50 Hz –15000 Hz
Singnal-to noise ratio	60 dB (Dolby B NR ON, CrO$_2$ tape peak level)
Recording system	AC bias
Heads	Deck 1 : playback head x 1 Deck 2 : Recording/Playback/ erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	90 dB (1 kHz, 0 dB)
Harmonic distortion	0.03 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

<Speaker system SX–ANA72 (For NSX-A72)>

Cabinet type	4 way, bass reflex with surround speaker (magnetic shielded type)
Speakers	Woofer : 160 mm ($6^{3}/_{8}$ in.) cone type Tweeter : 50 mm (2 in.) cone type Super tweeter: 20 mm ($^{13}/_{16}$ in.) ceramic type Cardioid speaker : 80 mm ($3^{1}/_{4}$ in.) cone type Surround speaker : 80 mm ($3^{1}/_{4}$ in.)
Impedance	Front speaker : 6 ohms Surround speaker : 16 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	250 x 310 x 280mm ($9^{7}/_{8}$ x $12^{1}/_{4}$ x $11^{1}/_{8}$ in.)
Weight	4.5 kg (9 lbs 15 oz.)

<Speaker system SX–NA74 (For NSX-A74)>

Cabinet type	3 way, bass reflex (magnetic shielded type)
Speakers	Woofer : 160 mm ($6^{3}/_{8}$ in.) cone type Tweeter : 80 mm ($3^{1}/_{4}$ in.) cone type Super tweeter : 20 mm ($^{13}/_{16}$ in.) ceramic type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	243 x 304 x 255 mm ($9^{5}/_{8}$ x 12 x $10^{1}/_{8}$ in.)
Weight	3.8 kg (8 lbs 6 oz.)

<General>

Power requirements	120 VAC, 60 Hz
Power consumption	115 W
Dimensions of main unit (W x H x D)	260 x 309 x 362.5 mm ($10^{1}/_{4}$ x $12^{1}/_{4}$ x $14^{3}/_{8}$ in.)
Weight of main unit	8.5 kg (18 lbs 12 oz.)

- Design and specifications are subject to change without notice.

- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
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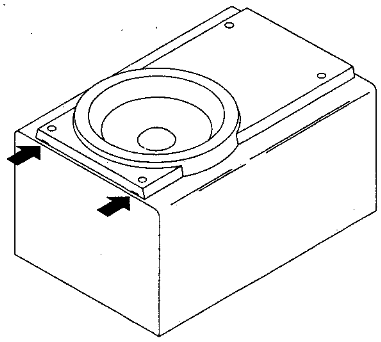
- The word "BBE"and the "BBE symbol" are trademarks of BBE Sound, Inc.
  Under license from BBE Sound,Inc.

SPEAKER DISASSEMBLY INSTRUCTIONS

Type.1

矢印の位置にマイナスドライバーを差し込んで、パネルを外します。各々のスピーカーユニットのビスを取り、スピーカーユニットを外してください。

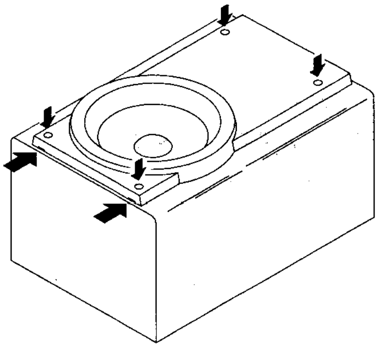
Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



Type.2

グリルフレームを外し、4個のゴムキャップをマイナスドライバーで端の方から持ち上げて外すと中にビスが有りますので、ビスを取り外します。矢印の位置にマイナスドライバーを差し込んで、パネルを外します。各々のスピーカーユニットのビスを取り、スピーカーユニットを外してください。

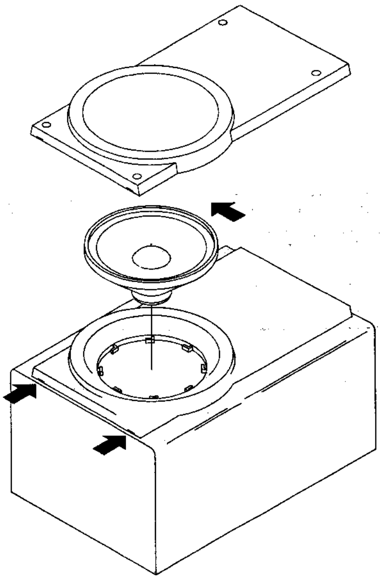
Remove the grill frame and four pieces of rubber caps by pulling out with a flat-bladed screwdriver. Remove the screws from hole where installed rubber caps. Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



Type.3

矢印の位置にマイナスドライバーを差し込んで、パネルを外します。各々のスピーカーユニットの凹にマイナスドライバーを差し込んで、反時計方向に回転させスピーカーユニットを外してください。スピーカーユニット交換後は時計方向にクリック音がするまで、回転させて取り付けます。

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Turn the speaker unit to counter-clockwise direction while inserting a flat-bladed screwdriver into one of the hollows arround speaker unit, and then remove the speaker unit. After replacing the speaker unit, install it turning to clockwise direction until "click" sound comes out.



SX-ANA72 (YU)
SPEAKER PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-NS5-001-010		PANEL,FR R
2	87-NS5-002-010		PANEL,FR L
3	87-NS5-010-010		PROTECTOR,R
4	87-NS5-011-010		PROTECTOR,L
5	87-NS5-012-010		PROTECTOR,TOP
6	87-NS5-025-010		GRILLE,FRAME ASSY R
7	87-NS5-026-010		GRILLE,FRAME ASSY L
8	87-NS4-611-019		SPKR,CORD
9	85-NS6-611-019		SPKR,CORD Y/B
10	87-NS5-602-019		SPKR,W 160
11	87-NS5-604-019		SPKR,MID
12	87-NS5-605-019		SPKR,T 50

SX-NA74 (YU)
SPEAKER PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-NSE-001-010		PANEL,FR R
2	87-NSE-002-010		PANEL,FR L
3	87-NSF-003-010		PANEL,DUCT R
4	87-NSF-004-010		PANEL,DUCT L
5	87-NSE-012-010		GRILLE,FRAME ASSY R
6	87-NSE-014-010		GRILLE,FRAME ASSY L
7	87-NSF-602-019		SPKR,W 160
8	87-NSE-604-019		SPKR,T 80
9	87-NSF-610-019		SPKR,CORD

SX-R240 (YB,YJB,YUB,YUST,YJST,YST,YUAST)
SPEAKER PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	85-NSV-001-010		PANEL,FR<YB,YJB,YUB>
1	86-NSX-009-010		PANEL FR ST<YUST,YJST,YST,YUAST>
2	85-NSX-005-010		GRILLE,FRAME ASSY<EXCEPT YUAST>
2	85-NSX-015-010		GRILLE,FRAME ASSY B<YUAST>
3	85-NSL-601-010		SPEAKER
4	81-VSA-010-010		SPEAKER CORD

サービス技術ニュース	
番号	連絡内容
G－　－	
G－　－	
G－　－	

アイワ株式会社
AIWA CO.,LTD.

9301978

Tokyo Japan

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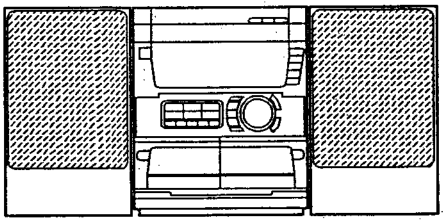
Printed in Singapore

aiwa

AIWA-02298

aiwa
SERVICE

NSX-A71
NSX-S70
NSX-S74



COMPACT DISC STEREO
CASSETTE RECEIVER

- BASIC TAPE MECHANISM : 2ZM-3MK2 PR4NM
- BASIC CD MECHANISM : 4ZG-1 Z1DNM
- TYPE : 71U, 70LH, 74LH

SYSTEM	CD CASSEIVER	SPEAKER	REMOTE CONTROLLER
NSX-A71	CX-NA71 (TYPE : U)	SX–FNA71	RC - 7AS08
NSX-S70	CX-NS70 (TYPE : LH)	SX–ANS70	
NSX-S74	CX-NS74 (TYPE : LH)	SX–NS74 SX–R240	

- If requiring information about the CD mechanism, see Service Manual of 4ZG-1, S/M Code No. 09-974-187-50T. +U18295
- If requiring information about the Speaker, see Service Manual of SX-FNA71, SX-ANS70, SX-NS74, SX-R240. S/M Code No. 09-974-182-6FP.

2298

S/M Code No. 09–973–182–5FP

SERVICE MANUAL

SPECIFICATIONS

<FM Tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity(IHF)	13.2 dBf
Antenna terminals	75 ohms (unbalanced)

<MW Tuner section>

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 uV/m
Antenna	Loop antenna

<Amplifier section>

Power output	71U : Rated 100 W + 100 W (50Hz - 20kHz, T.H.D. less than1%, 6 ohms) 70LH, 74LH : Rated 150 W + 150 W (6 ohms, T.H.D. 10%, 1kHz)
Total harmonic distortion	71U : 0.05% (90 W, 1 kHz, 6 ohms, DIN AUDIO) 70LH, 74LH : 0.05% (110 W, 1 kHz, 6 ohms, DIN AUDIO)
Inputs	VIDEO/AUX : 210 mV(adjustable) MD : 210mV (adjustable) MIC 1,MIC 2: 1.4mV (10 kohms)
Outputs	LINE OUT: 200mV 71U : SUPER WOOFER: 2.4 V 70LH, 74LH : SUPER WOOFER: 2.7 V SPEAKERS: accept speakers of 6 ohms or more SURROUND SPEAKERS: accept speakers of 16 ohms or more PHONES (stereo jack) : accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	CRo_2 tape: 50 Hz – 16000 Hz Normal tape: 50 Hz –15000 Hz
Singnal-to noise ratio	60 dB (Dolby B NR ON, CrO_2 tape peak level)
Recording system	AC bias
Heads	Deck 1 : playback head x 1 Deck 2 : Recording/Playback/ erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	90 dB (1 kHz, 0 dB)
Harmonic distortion	0.03 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

<Speaker system SX–FNA71 (For NSX-A71)>

Cabinet type	3 way, bass reflex with surround speaker (magnetic shielded type)
Speakers	Woofer : 160 mm ($6^{3}/_{8}$ in.) cone type Tweeter : 80 mm ($3^{1}/_{4}$ in.) cone type Super tweeter: 20 mm ($^{13}/_{16}$ in.) ceramic type Surround speaker : 80 mm ($3^{1}/_{4}$ in.)
Impedance	Front speaker : 6 ohms Surround speaker : 16 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	250 x 304 x 288mm ($9^{7}/_{8}$ x 12 x $11^{3}/_{8}$ in.)
Weight	3.6 kg (7 lbs 15 oz.)

<Speaker system SX–ANS70 (For NSX-S70)>

Cabinet type	4 way, bass reflex with surround speaker (magnetic shielded type)
Speakers	Woofer : 160 mm cone type Tweeter : 50 mm cone type Super tweeter : 20 mm ceramic type Cardioid speaker : 80 mm cone type Surround speaker : 80 mm
Impedance	Front speaker : 6 ohms Surround speaker : 16 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	250 x 310 x 280 mm
Weight	4.5 kg

<Speaker system SX–NS74 (For NSX-S74)>

Cabinet type	3 way, bass reflex (magnetic shielded type)
Speakers	Woofer : 160 mm cone type Tweeter : 80 mm cone type Super tweeter: 20 mm ceramic type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	243 x 304 x 227mm
Weight	3.6 kg

<General>

Power requirements	71U : 120 VAC, 60 Hz 70LH, 74LH : 120 V/220-230V/240 V AC switchable, 50/60 Hz
Power consumption	71U : 115 W 70LH, 74LH : 170 W
Dimensions of main unit (W x H x D)	71U : 260 x 309 x 362.5 mm ($10^{1}/_{4}$ x $12^{1}/_{4}$ x $14^{3}/_{8}$ in.) 70LH, 74LH : 260 x 309 x 363 mm
Weight of main unit	71U : 8.5 kg (18 lbs 12 oz.) 70LH, 74LH : 9 kg

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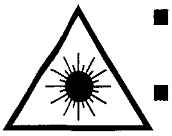
  Under license from BBE Sound,Inc.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!
WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserståling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herin may result in hazardous radiation exposure.

ATTENTION
L'utillisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL
Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

VAROITUS!
Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saataa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!
Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

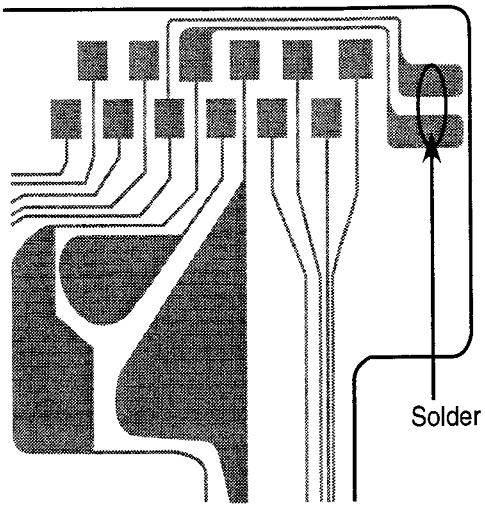
Precaution to replace Optical block

(KSS-213B)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use the clothes do not touch the diode.

1) After the connection, remove solder shown in figure below.

PICK – UP Assy P.C.B.



ELECTRICAL MAIN PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-020-454-010		IC,DN6851
	87-NF4-641-010		IC,LC866548V-5E15
	87-A20-448-010		IC,PIC-21043TE3
	87-A20-455-010		IC,HA12211
	87-A20-355-010		IC,CXA1553P
	87-A20-083-010		IC,BA3835S
	87-A20-450-040		C-IC,BH3864F
	87-A20-056-010		IC,BA3880S
	87-A20-451-040		C-IC,BU9262FS
	87-A20-456-040		C-IC,BH3810FS
	87-017-888-080		C-IC,NJM4558MD
	86-NFZ-655-010		IC,LC72131D(Z)
	87-A20-438-010		IC,LA1837
TRANSISTOR			
	87-026-263-080		C-TR,RN1410
	89-213-702-010		TR,2SB1370E
	87-A30-076-080		C-TR,2SC3052F
	87-A30-075-080		C-TR,2SA1235F
	87-026-610-080		TR,KTC3198GR
	87-A30-073-080		C-TR,RT1N 141C
	87-A30-085-070		C-TR,CSA1362GR
	87-A30-083-080		TR,CSD1489B
	87-A30-084-080		TR,CSB1058B
	87-A30-071-080		C-TR,RT1N 144C
	87-026-609-080		TR,KTA1266GR
	87-A30-086-070		C-TR,CSD1306E
	87-A30-106-070		C-TR,CMBT5551
	87-A30-111-080		TR,C2N5401
	87-A30-097-010		TR,FN1016
	87-A30-098-010		TR,FP1016
	87-A30-089-010		FET,2SK2723
	87-A30-072-080		C-TR,RT1P 144C
	87-A30-087-080		C-FET,2SK2158
	87-A30-074-080		C-TR,RT1P 141C
	89-327-143-080		C-TR,2SC2714(O)
DIODE			
	87-017-654-060		DIODE,GBU6JL6131
	87-017-437-080		DIODE,1N4148M
	87-A40-269-080		C-DIODE,MC2836
	87-A40-270-080		C-DIODE,MC2838
	87-070-274-080		DIODE,1N4003 SEM
	87-A40-205-080		ZENER,UZ6.2BSC
	87-A40-211-080		ZENER,UZ36BSA
	87-A40-206-080		ZENER,UZ10BSC
	87-A40-202-080		ZENER,UZ5.1BSB
	87-A40-184-090		DIODE,RK34(F)
	87-A40-246-080		DIODE,1N4148T-72
	87-017-481-080		ZENER,UZ-5.6BSB
	87-A40-192-080		ZENER,UZ4.3BSA
	87-A40-239-080		ZENER,UZ5.6BSA
MAIN C.B			
C101	87-A10-059-090		CAP,E 3300-75
C102	87-A10-059-090		CAP,E 3300-75
C103	87-016-658-090		CAP,E 4700-35 M SMG
C104	87-016-658-090		CAP,E 4700-35 M SMG
C105	87-012-368-080		C-CAP,S 0.1-50 Z F
C106	87-012-368-080		C-CAP,S 0.1-50 Z F
C107	87-012-368-080		C-CAP,S 0.1-50 Z F
C108	87-012-368-080		C-CAP,S 0.1-50 Z F
C109	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C110	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C111	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C112	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C113	87-010-247-080		CAP,E 100-50 M SME<71U>
C113	87-010-408-080		CAP,E 47-50 SME<74LH,70LH>
C116	87-010-247-080		CAP,E 100-50 M SME<71U>
C116	87-010-408-080		CAP,E 47-50 SME<74LH,70LH>
C117	87-010-430-080		CAP,E 100-63
C118	87-010-263-080		CAP,E 100-10 SME
C119	87-010-260-080		CAP,E 47-25 SME
C120	87-010-403-080		CAP,E 3.3-50 M SME
C121	87-012-140-080		C-CAP,S 470P-50 J CH
C122	87-010-263-080		CAP,E 100-10 SME<71U>
C123	87-010-382-080		CAP,E 22-25 M SME
C124	87-010-112-080		CAP,E 100-16 M SME
C125	87-010-235-080		CAP,E 470-16 SME
C129	87-010-393-080		CAP,E 100-35 M SME
C201	87-010-400-080		CAP,E 0.47-50 M SME
C202	87-010-400-080		CAP,E 0.47-50 M SME
C205	87-010-181-080		C-CAP,S 1800P-50 K B
C206	87-010-181-080		C-CAP,S 1800P-50 K B
C207	87-010-404-080		CAP,E 4.7-50 M SME
C208	87-010-404-080		CAP,E 4.7-50 M SME
C209	87-010-404-080		CAP,E 4.7-50 M SME
C210	87-010-404-080		CAP,E 4.7-50 M SME
C211	87-010-186-080		C-CAP,S 4700P-50 K B
C212	87-010-186-080		C-CAP,S 4700P-50 K B
C213	87-010-260-080		CAP,E 47-25 SME
C214	87-010-260-080		CAP,E 47-25 SME
C215	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C219	87-010-196-080		C-CAP,S 0.1-25 Z F C2012<71U>
C219	87-012-368-080		C-CAP,S 0.1-50 FZ<74LH,70LH>>
C220	87-010-196-080		C-CAP,S 0.1-25 Z F C2012<71U>
C220	87-012-368-080		C-CAP,S 0.1-50 FZ<74LH,70LH>>
C221	87-010-196-080		C-CAP,S 0.1-25 Z F C2012<71U>
C221	87-012-368-080		C-CAP,S 0.1-50 FZ<74LH,70LH>>
C222	87-010-196-080		C-CAP,S 0.1-25 Z F C2012<71U>
C222	87-012-368-080		C-CAP,S 0.1-50 FZ<74LH,70LH>>
C223	87-010-194-080		C-CAP,S 0.047-25 Z F
C225	87-010-322-080		C-CAP,S 100P-50 J CH
C226	87-010-322-080		C-CAP,S 100P-50 J CH
C242	87-010-406-080		CAP,E 22-50 M SME
C243	87-010-197-080		C-CAP,S 0.01-25 K B
C244	87-010-406-080		CAP,E 22-50 M SME
C301	87-010-318-080		C-CAP,S 47P-50 J CH
C302	87-010-318-080		C-CAP,S 47P-50 J CH
C303	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C304	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C305	87-012-145-080		C-CAP,S 270P-50 J CH
C306	87-012-145-080		C-CAP,S 270P-50 J CH
C307	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C311	87-010-198-080		C-CAP,S 0.022-25 K B
C312	87-010-198-080		C-CAP,S 0.022-25 K B
C313	87-010-180-080		C-CAP,S 1500P-50 K B
C314	87-010-180-080		C-CAP,S 1500P-50 K B
C315	87-010-178-080		C-CAP,S 1000P-50 K B
C316	87-010-178-080		C-CAP,S 1000P-50 K B
C317	87-012-142-080		C-CAP,S 0.33-16 Z F
C318	87-012-142-080		C-CAP,S 0.33-16 Z F
C319	87-012-141-080		C-CAP,S 0.22-16 Z F
C320	87-012-141-080		C-CAP,S 0.22-16 Z F
C321	87-012-141-080		C-CAP,S 0.22-16 Z F
C322	87-012-141-080		C-CAP,S 0.22-16 Z F
C324	87-010-260-080		CAP,E 47-25 SME
C325	87-010-370-080		CAP,E 330-6.3 M SME
C327	87-010-404-080		CAP,E 4.7-50 M SME
C328	87-010-404-080		CAP,E 4.7-50 M SME
C332	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C335	87-010-401-080		CAP,E 1-50 M SME
C336	87-010-401-080		CAP,E 1-50 M SME
C337	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C339	87-010-196-080		C-CAP,S 0.1-25 Z F C2012

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C340	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C351	87-012-140-080		C-CAP,S 470P-50 J CH
C352	87-012-140-080		C-CAP,S 470P-50 J CH
C354	87-010-175-080		C-CAP,S 560P-50 J SL
C355	87-010-178-080		C-CAP,S 1000P-50 K B
C356	87-010-260-080		CAP,E 47-25 SME
C357	87-010-197-080		C-CAP,S 0.01-25 K B
C358	87-010-183-080		C-CAP,S 2700P-50 K B
C359	87-010-183-080		C-CAP,S 2700P-50 K B
C360	87-010-183-080		C-CAP,S 2700P-50 K B
C370	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C371	87-010-179-080		C-CAP,S 1200P-50 K B
C372	87-010-179-080		C-CAP,S 1200P-50 K B
C373	87-010-179-080		C-CAP,S 1200P-50 K B
C374	87-010-179-080		C-CAP,S 1200P-50 K B
C375	87-010-545-080		CAP,E 0.22-50 M SME
C376	87-010-545-080		CAP,E 0.22-50 M SME
C378	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C381	87-010-197-080		C-CAP,S 0.01-25 K B
C382	87-010-318-080		C-CAP,S 47P-50 J CH
C383	87-010-197-080		C-CAP,S 0.01-25 K B
C384	87-010-402-080		CAP,E 2.2-50 M SME
C385	87-010-184-080		C-CAP,S 3300P-50 K B
C386	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C388	87-010-154-080		C-CAP,S 10P-50 D CH
C401	87-010-187-080		C-CAP,S 5600P-50 K B
C402	87-010-187-080		C-CAP,S 5600P-50 K B
C403	87-010-405-080		CAP,E 10-50 M SME
C404	87-010-405-080		CAP,E 10-50 M SME
C405	87-010-260-080		CAP,E 47-25 SME
C406	87-010-101-080		CAP,E 220-16 SME
C407	87-010-188-080		C-CAP,S 6800P-50 K B
C408	87-010-188-080		C-CAP,S 6800P-50 K B
C409	87-012-140-080		C-CAP,S 470P-50 J CH
C410	87-012-140-080		C-CAP,S 470P-50 J CH
C411	87-010-197-080		C-CAP,S 0.01-25 K B
C412	87-010-197-080		C-CAP,S 0.01-25 K B
C413	87-010-195-080		C-CAP,S 0.068-25 Z F C2012
C414	87-010-195-080		C-CAP,S 0.068-25 Z F C2012
C415	87-010-404-080		CAP,E 4.7-50 M SME
C416	87-010-404-080		CAP,E 4.7-50 M SME
C417	87-010-404-080		CAP,E 4.7-50 M SME
C418	87-010-404-080		CAP,E 4.7-50 M SME
C421	87-010-401-080		CAP,E 1-50 M SME
C422	87-010-401-080		CAP,E 1-50 M SME
C516	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C605	87-010-180-080		C-CAP,S 1500P-50 K B
C606	87-010-180-080		C-CAP,S 1500P-50 K B
C611	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C613	87-010-404-080		CAP,E 4.7-50 M SME
C614	87-010-404-080		CAP,E 4.7-50 M SME
C615	87-010-183-080		C-CAP,S 2700P-50 K B
C619	87-010-263-080		CAP,E 100-10 SME
C620	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C621	87-010-263-080		CAP,E 100-10 SME
C622	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C623	87-010-194-080		C-CAP,S 0.047-25 Z F
C629	87-012-368-080		C-CAP,S 0.1-50 FZ<74LH,70LH>
C646	87-010-322-080		C-CAP,S 100P-50 J CH
C647	87-010-322-080		C-CAP,S 100P-50 J CH
C701	87-010-381-080		CAP,E 330-16 SME
C702	87-010-404-080		CAP,E 4.7-50 M SME
C703	87-010-197-080		C-CAP,S 0.01-25 K B
C704	87-010-197-080		C-CAP,S 0.01-25 K B
C711	87-010-263-080		CAP,E 100-10 SME
C712	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C713	87-010-197-080		C-CAP,S 0.01-25 K B
C714	87-010-197-080		C-CAP,S 0.01-25 K B
C721	87-010-312-080		C-CAP,S 15P-50 J CH
C722	87-010-312-080		C-CAP,S 15P-50 J CH
C723	87-010-178-080		C-CAP,S 1000P-50 K B
C725	87-010-178-080		C-CAP,S 1000P-50 K B
C727	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C728	87-010-248-080		CAP,E 220-10 SME
C755	87-010-197-080		C-CAP,S 0.01-25 K B
C756	87-010-197-080		C-CAP,S 0.01-25 K B
C757	87-010-318-080		C-CAP,S 47P-50 J CH
C758	87-010-149-080		C-CAP,S 5P-50 CH
C761	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C762	87-010-197-080		C-CAP,S 0.01-25 K B
C763	87-010-194-080		C-CAP,S 0.047-25 Z F
C765	87-010-197-080		C-CAP,S 0.01-25 K B
C766	87-010-197-080		C-CAP,S 0.01-25 K B
C767	87-010-405-080		CAP,E 10-50 M SME
C768	87-010-197-080		C-CAP,S 0.01-25 K B
C769	87-010-408-080		CAP,E 47-50 SME
C770	87-015-821-080		C-CAP, 0.047-50 Z F GR
C771	87-010-407-080		CAP,E 33-50 SME
C772	87-010-194-080		C-CAP,S 0.047-25 Z F
C773	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C774	87-010-263-080		CAP,E 100-10 SME
C775	87-010-404-080		CAP,E 4.7-50 M SME
C776	87-010-197-080		C-CAP,S 0.01-25 K B
C777	87-010-400-080		CAP,E 0.47-50 M SME
C778	87-010-401-080		CAP,E 1-50 M SME
C779	87-010-401-080		CAP,E 1-50 M SME
C780	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C781	87-010-405-080		CAP,E 10-50 M SME
C782	87-010-405-080		CAP,E 10-50 M SME
C783	87-015-819-080		C-CAP,0.01-50 K B
C784	87-010-197-080		C-CAP,S 0.01-25 K B
C785	87-010-400-080		CAP,E 0.47-50 M SME
C786	87-010-400-080		CAP,E 0.47-50 M SME
C787	87-010-184-080		C-CAP,S 3300P-50 K B
C788	87-010-184-080		C-CAP,S 3300P-50 K B
C789	87-010-179-080		C-CAP,S 1200P-50 K B
C790	87-010-179-080		C-CAP,S 1200P-50 K B
C791	87-010-405-080		CAP,E 10-50 M SME
C793	87-010-178-080		C-CAP,S 1000P-50 K B
C794	87-010-406-080		CAP,E 22-50 M SME
C795	87-010-596-080		C-CAP,S 0.047-16 K R
C796	87-010-403-080		CAP,E 3.3-50 M SME
C797	87-010-182-080		C-CAP,S 2200P-50 K B
C798	87-010-182-080		C-CAP,S 2200P-50 K B
C799	87-010-194-080		C-CAP,S 0.047-25 Z F
C812	87-010-197-080		C-CAP,S 0.01-25 K B
C814	87-010-197-080		C-CAP,S 0.01-25 K B
C820	87-010-408-080		CAP,E 47-50 SME
C821	87-010-197-080		C-CAP,S 0.01-25 K B
C822	87-010-197-080		C-CAP,S 0.01-25 K B
C823	87-010-197-080		C-CAP,S 0.01-25 K B
C828	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C829	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C959	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C960	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C961	87-010-152-080		C-CAP,S 8P-50 D CH
CF801	87-008-261-010		FLTR,CFSFE10.7MA5
CF802	87-008-261-010		FLTR,CFSFE10.7MA5
FFE801	A8-7ZA-290-030		7ZA-2 FEUNM
J252	87-A60-024-010		JACK,DIA6.3 BLK ST W/SW KM
J253	87-099-474-010		JACK,PIN 3P BLK W/SW
J254	87-A60-238-010		TERMINAL,SP 4P (MSC)
J601	87-A60-330-010		JACK,PIN 6P YKC21-3174
J801	87-A60-202-010		TERMINAL,ANT 4P MSP-154V-02
L201	87-003-383-010		COIL,1UH K
L202	87-003-383-010		COIL,1UH K
L301	87-A50-049-010		COIL,TRAP 85K(COI)
L302	87-A50-049-010		COIL,TRAP 85K(COI)
L351	87-007-342-010		COIL,OSC 85KHZ BIAS
L601	87-003-231-080		C-COIL,2125 1UH<74LH,70LH>

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
L770	87-005-849-080		COIL,10UH K CECS
L771	87-A50-165-010		COIL,FM DET-N(TOK)
L772	87-A90-245-010		FLTR,CFAZH-450 (TOK)
L791	87-003-293-010		COIL, TRAP MPX
L792	87-003-293-010		COIL, TRAP MPX
L832	87-005-847-080		COIL,2.2UH K CECS
L981	87-NF4-650-010		COIL,AM PACK4N(TOK)
⚠ PR201	87-026-691-080		FUSE,10A 125V 251<71U>
⚠ PR201	87-026-682-080		PROTECTOR,10A 491SERIES 60V<LH>
⚠ PR202	87-026-691-080		FUSE,10A 125V 251<71U>
⚠ PR202	87-026-682-080		PROTECTOR,10A 491SERIES 60V<LH>
R123	87-022-200-080		RES,M/F 0.56-1W J<71U>
R231	87-A00-262-080		RES,M/F 0.15-2W J
R232	87-A00-262-080		RES,M/F 0.15-2W J
RY101	87-045-389-010		RELAY,12V OSA-SS-212DM5
RY201	87-045-382-010		RELAY,12V OUAZ-SH-112L
SFR301	87-024-435-080		SFR,33K H RH063MC
SFR302	87-024-435-080		SFR,33K H RH063MC
SFR303	87-024-435-080		SFR,33K H RH063MC
SFR304	87-024-435-080		SFR,33K H RH063MC
SFR305	87-024-436-080		SFR,47K H RH063MC
SFR306	87-024-436-080		SFR,47K H RH063MC
SFR351	87-024-436-080		SFR,47K H RH063MC
SFR352	87-024-436-080		SFR,47K H RH063MC
TH201	87-A90-221-080		C-THMS,100K<74LH,70LH>
TH202	87-A90-221-080		C-THMS,100K<74LH,70LH>
W1	85-NF5-628-010		F-CABLE,7P-2.5
X721	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309

FRONT C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C103	87-010-197-080		C-CAP,S 0.01-25 K B
C104	87-010-312-080		C-CAP,S 15P-50 J CH
C105	87-010-316-080		C-CAP,S 33P-50 J CH
C106	87-010-320-080		C-CAP,S 68P-50 J CH
C107	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C108	87-010-560-040		CAP,E 10-50 M 5L MA
C109	87-010-401-040		CAP,E 1-50 M SME
C110	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C111	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C112	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C113	87-A10-189-040		CAP,E 220-10 M
C114	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C115	87-010-178-080		C-CAP,S 1000P-50 K B
C116	87-010-401-040		CAP,E 1-50 M SME
C117	87-010-263-040		CAP,E 100-10 M SME
C118	87-010-194-080		C-CAP,S 0.047-25 Z F
C119	87-010-408-040		CAP,E 47-50 M SME
C120	87-010-404-040		CAP,E 4.7-50 SME
C121	87-010-404-040		CAP,E 4.7-50 SME
C122	87-010-194-080		C-CAP,S 0.047-25 Z F
C123	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C124	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C125	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C127	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C128	87-010-178-080		C-CAP,S 1000P-50 K B
C351	87-012-158-080		C-CAP,S 390P-50 J CH GRM
C352	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C353	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C354	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C355	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C356	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C357	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C605	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
FB601	87-008-372-080		FLTR,EMIBL01 RN1
FL101	87-NF5-611-010		FL,BJ530GK 7NF-5
J601	87-A60-284-010		JACK,3.5MO (MSC)
J602	87-A60-284-010		JACK,3.5MO (MSC)
LED201	87-A40-317-080		LED,SLR-342VCT31 RED
LED202	87-A40-317-080		LED,SLR-342VCT31 RED
LED203	87-A40-317-080		LED,SLR-342VCT31 RED
LED204	87-A40-317-080		LED,SLR-342VCT31 RED
LED205	87-A40-317-080		LED,SLR-342VCT31 RED
LED206	87-A40-316-080		LED,SLR-56PCT31 GRN
LED207	87-A40-316-080		LED,SLR-56PCT31 GRN
LED208	87-A40-316-080		LED,SLR-56PCT31 GRN
LED209	87-A40-316-080		LED,SLR-56PCT31 GRN
LED210	87-A40-316-080		LED,SLR-56PCT31 GRN
LED211	87-A40-316-080		LED,SLR-56PCT31 GRN
LED212	87-A40-316-080		LED,SLR-56PCT31 GRN
LED213	87-A40-316-080		LED,SLR-56PCT31 GRN
LED214	87-A40-316-080		LED,SLR-56PCT31 GRN
LED215	87-A40-316-080		LED,SLR-56PCT31 GRN
LED216	87-A40-263-080		LED,SLH-56PCT31 GRN
LED217	87-A40-263-080		LED,SLH-56PCT31 GRN
LED218	87-A40-263-080		LED,SLH-56PCT31 GRN
LED219	87-A40-263-080		LED,SLH-56PCT31 GRN
LED220	87-A40-263-080		LED,SLH-56PCT31 GRN
LED221	87-A40-263-080		LED,SLH-56PCT31 GRN
LED233	87-A40-265-010		LED,SLH-56PCL GRN
LED234	87-A40-265-010		LED,SLH-56PCL GRN
LED235	87-A40-267-010		LED,SLH-56VCL RED
LED236	87-A40-267-010		LED,SLH-56VCL RED
LED237	87-A40-265-010		LED,SLH-56PCL GRN
LED238	87-A40-265-010		LED,SLH-56PCL GRN
S301	87-A90-095-080		SW,TACT EVQ11G04M
S302	87-A90-095-080		SW,TACT EVQ11G04M
S303	87-A90-095-080		SW,TACT EVQ11G04M
S304	87-A90-095-080		SW,TACT EVQ11G04M
S305	87-A90-095-080		SW,TACT EVQ11G04M
S306	87-A90-095-080		SW,TACT EVQ11G04M
S307	87-A90-095-080		SW,TACT EVQ11G04M
S308	87-A90-095-080		SW,TACT EVQ11G04M
S314	87-A90-095-080		SW,TACT EVQ11G04M
S315	87-A90-095-080		SW,TACT EVQ11G04M
S316	87-A90-095-080		SW,TACT EVQ11G04M
S317	87-A90-095-080		SW,TACT EVQ11G04M
S318	87-A90-095-080		SW,TACT EVQ11G04M
S319	87-A90-095-080		SW,TACT EVQ11G04M
S320	87-A90-095-080		SW,TACT EVQ11G04M
S322	87-A90-095-080		SW,TACT EVQ11G04M
S328	87-A90-095-080		SW,TACT EVQ11G04M
S329	87-A90-095-080		SW,TACT EVQ11G04M
S330	87-A90-095-080		SW,TACT EVQ11G04M
S331	87-A90-095-080		SW,TACT EVQ11G04M
S332	87-A90-095-080		SW,TACT EVQ11G04M
S336	87-A90-095-080		SW,TACT EVQ11G04M
X101	87-A70-070-080		VIB,CER 5.76MHZ CRHF

CD KEY C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
S309	87-A90-095-080		SW,TACT EVQ11G04M
S310	87-A90-095-080		SW,TACT EVQ11G04M
S311	87-A90-095-080		SW,TACT EVQ11G04M
S312	87-A90-095-080		SW,TACT EVQ11G04M
S313	87-A90-095-080		SW,TACT EVQ11G04M

FAN C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C130	87-010-401-080		CAP,E 1-50 M SME<74LH,70LH>
C131	87-010-263-080		CAP,E 100-10 SME<74LH,70LH>
C132	87-010-380-080		CAP,E 47-16 M SME<74LH,70LH>

AC2 C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
⚠ PR1	87-026-691-080		FUSE,10A 125V 251<71U>
⚠ PR1	87-026-682-080		PROTECTOR,10A 491SERIES 60V<LH>
⚠ PR2	87-026-691-080		FUSE,10A 125V 251<71U>
⚠ PR2	87-026-682-080		PROTECTOR,10A 491SERIES 60V<LH>
⚠ PR5	87-026-691-080		FUSE,10A 125V 251<71U>

	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
⚠	PR5	87-026-682-080		PROTECTOR,10A 491SERIES 60V<LH>
⚠	PR6	87-026-691-080		FUSE,10A 125V 251<71U>
⚠	PR6	87-026-682-080		PROTECTOR,10A 491SERIES 60V<LH>

AC1 C.B

	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
⚠	FC1	87-033-147-010		FUSE CLAMP,MT-20<74LH,70LH>
⚠	FC1	87-033-213-080		FUSE CLAMP,PFC5000<71U>
⚠	FC2	87-033-147-010		FUSE CLAMP,MT-20<74LH,70LH>
⚠	FC2	87-033-213-080		FUSE CLAMP,PFC5000<71U>
⚠	FC3	87-033-147-010		FUSE CLAMP,MT-20<74LH,70LH>
⚠	FC4	87-033-147-010		FUSE CLAMP,MT-20<74LH,70LH>
⚠	F101	87-035-457-010		FUSE,3.15A 250V T218<74LH,70LH>
⚠	F101	87-035-491-010		FUSE,6A 125V T237<71U>
⚠	F102	87-035-457-010		FUSE,3.15A 250V T218<74LH,70LH>
⚠	PT101	87-NF5-605-010		PT,LH EI85-58 7NF-5<74LH,70LH>
⚠	PT101	87-NF5-601-010		PT,U EI85-58 7NF-5<71U>
⚠	SW101	87-A90-165-010		SW,SL 1-2-3 SWS2301<74LH,70LH>
⚠	T1	87-A60-317-010		TERMINAL, 1P MSC
⚠	T2	87-A60-317-010		TERMINAL, 1P MSC

AUDIO C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C405	87-010-401-040		CAP,E 1-50 M SME
C406	87-010-401-040		CAP,E 1-50 M SME
C414	87-010-374-040		CAP,E 47-10 SME
C415	87-010-374-040		CAP,E 47-10 SME
C418	87-010-405-040		CAP,E 10-50 M SME
C512	87-010-374-040		CAP,E 47-10 SME
C513	87-010-404-040		CAP,E 4.7-50 SME
C514	87-010-404-040		CAP,E 4.7-50 SME
C519	87-010-263-040		CAP,E 100-10 M SME
C533	87-010-545-080		CAP,E 0.22-50 M SME
C601	87-010-405-040		CAP,E 10-50 M SME
C603	87-010-405-040		CAP,E 10-50 M SME
C604	87-010-382-040		CAP,E 22-25 SME
C609	87-010-545-040		CAP,E 0.22-50 M SME
C614	87-010-248-040		CAP,E 220-10 M SME
FB401	87-008-372-080		FLTR,EMIBL01 RN1<71U>
L501	87-005-212-080		COIL,220UH K EL0606

RE C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C101	87-010-198-080		C-CAP,S 0.022-25 K B
C102	87-010-198-080		C-CAP,S 0.022-25 K B
C403	87-010-992-080		C-CAP,S 0.047-25 K B MK212
C404	87-010-992-080		C-CAP,S 0.047-25 K B MK212
C407	87-010-184-080		C-CAP,S 3300P-50 K B
C408	87-010-184-080		C-CAP,S 3300P-50 K B
C409	87-010-592-080		C-CAP,S 0.022-16 K R<71U,70LH>
C410	87-010-592-080		C-CAP,S 0.022-16 K R<71U,70LH>
C411	87-016-463-080		C-CAP, 0.33-16 K B C3216
C412	87-016-463-080		C-CAP, 0.33-16 K B C3216
C413	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C416	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C417	87-016-081-080		C-CAP,S 0.1-16 K R
C419	87-010-196-080		C-CAP,S 0.1-25 Z F C2012<71U>
C501	87-010-319-080		C-CAP,S 56P-50 J CH
C502	87-010-319-080		C-CAP,S 56P-50 J CH
C503	87-012-393-080		C-CAP,S 0.22-16 K W5R CM/CB
C504	87-010-197-080		C-CAP,S 0.01-25 K B
C505	87-010-180-080		C-CAP,S 1500P-50 K B
C506	87-010-213-080		C-CAP,S 0.015-25 K B
C507	87-010-213-080		C-CAP,S 0.015-25 K B
C508	87-010-197-080		C-CAP,S 0.01-25 K B
C509	87-010-181-080		C-CAP,S 1800P-50 K B
C510	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C511	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C515	87-010-183-080		C-CAP,S 2700P-50 K B
C516	87-010-183-080		C-CAP,S 2700P-50 K B
C518	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C602	87-010-186-080		C-CAP,S 4700P-50 K B
C607	87-010-321-080		C-CAP,S 82P-50 J CH
C608	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C611	87-010-177-080		C-CAP,S 820P-50 J SL
S101	87-A90-535-010		SW,RTRY EC16B24304-W0 NON
S326	87-A90-095-080		SW,TACT EVQ11G04M
S327	87-A90-095-080		SW,TACT EVQ11G04M

DECK C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
W001	82-ZM3-601-019		RBN,CORD,4P-75
SFR1	87-024-581-019		SFR,3.3K DIA 6H
SOL1	82-ZM1-618-010		SOL ASSY, 27
SOL2	82-ZM1-618-010		SOL ASSY, 27
SW1	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW2	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW3	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW4	87-036-110-010		SW,MICRO SPPB62
SW5	87-036-110-010		SW,MICRO SPPB62
SW6	87-036-110-010		SW,MICRO SPPB62
SW8	87-A90-248-019		SW,MICRO ESE11SH2CXQ
SW9	87-036-110-010		SW,MICRO SPPB62
CON502	87-099-756-019		CONN, 15P 9604 S F

HEAD-1 C.B

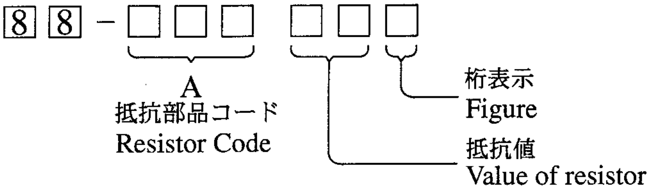
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
	85-ZM3-602-010		PWB,FLEX A

HEAD-2 C.B

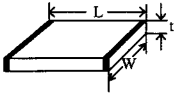
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
	85-ZM3-602-010		PWB,FLEX A

Oチップ抵抗部品コード／CHIP RESISTOR PART CODE

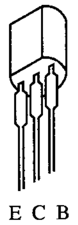
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding


8 8 - □□□ □□□
A
抵抗部品コード
Resistor Code
桁表示
Figure
抵抗値
Value of resistor

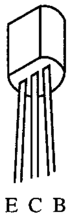
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード : A Resistor Code : A
				外形／Form	L	W	t	
1/16W	1608	±5%	CJ		1.6	0.8	0.45	108
1/10W	2125	±5%	CJ		2	1.25	0.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.55	128

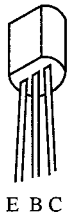
TRANSISTOR ILLUSTRATION



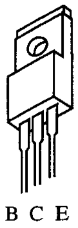
KTA1266GR
KTC3198GR



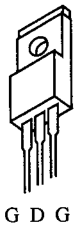
CSD1489B
CSB1058B



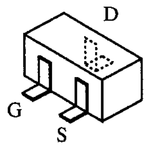
C2N5401



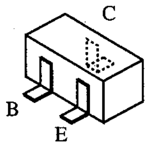
2SB1370
FN1016
FP1016



2SK2723

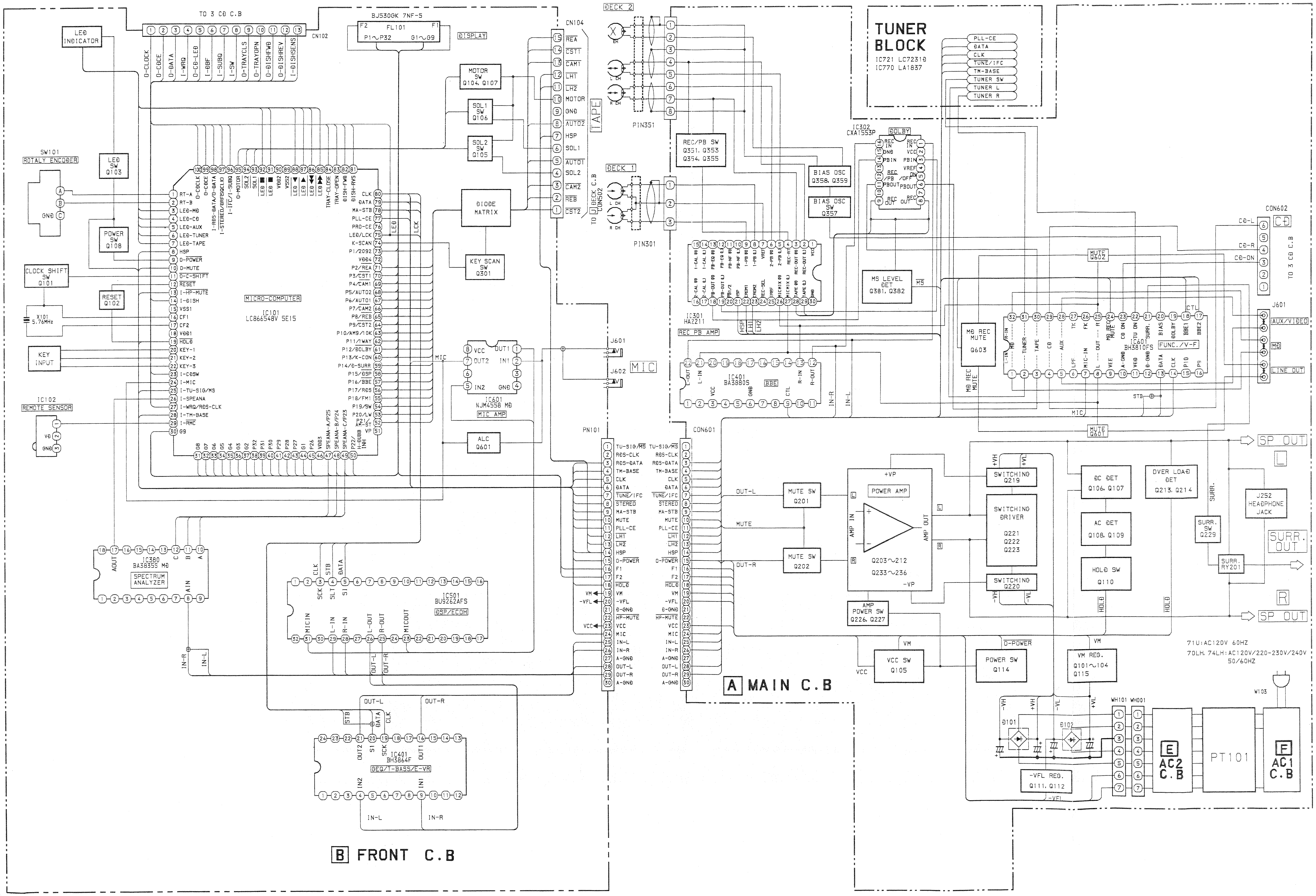


2SK2158

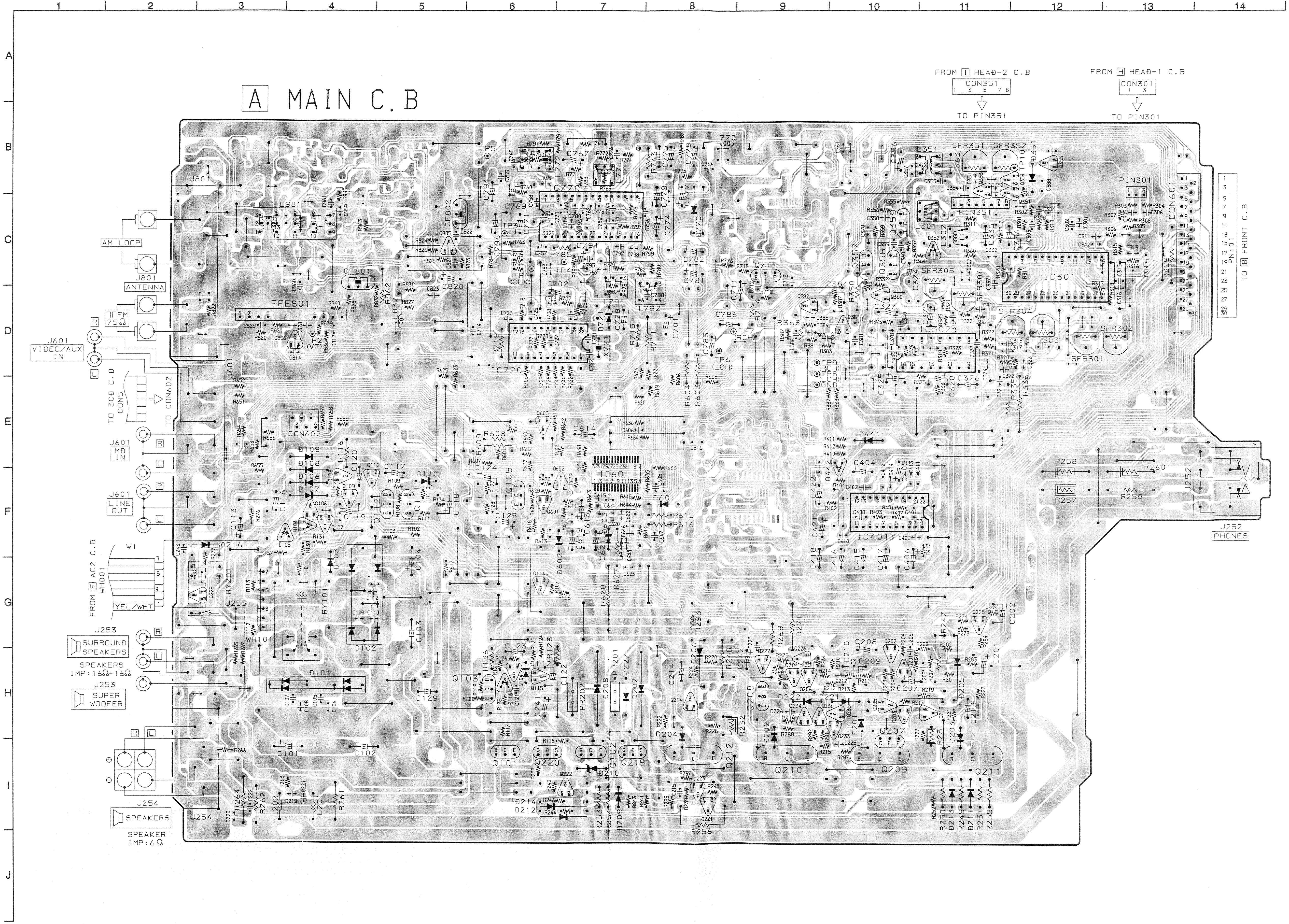


2SA1235F
2SC2714
2SC3052F
CMBT5551
CSA1362GR
CSD1306E
RN1404
RT1N141C
RT1N144C
RT1P141C
RT1P144C

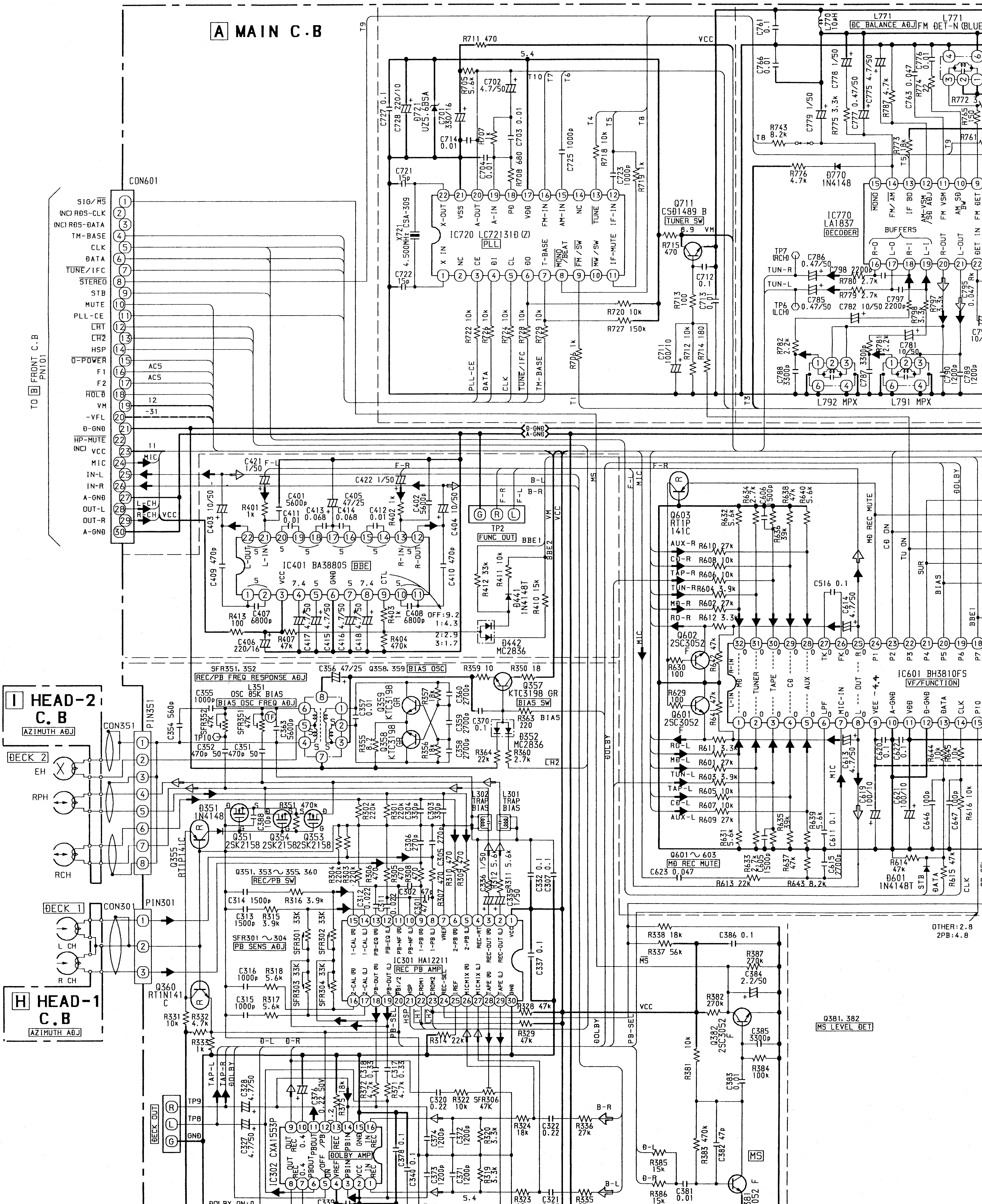
BLOCK DIAGRAM (MAIN / FRONT)

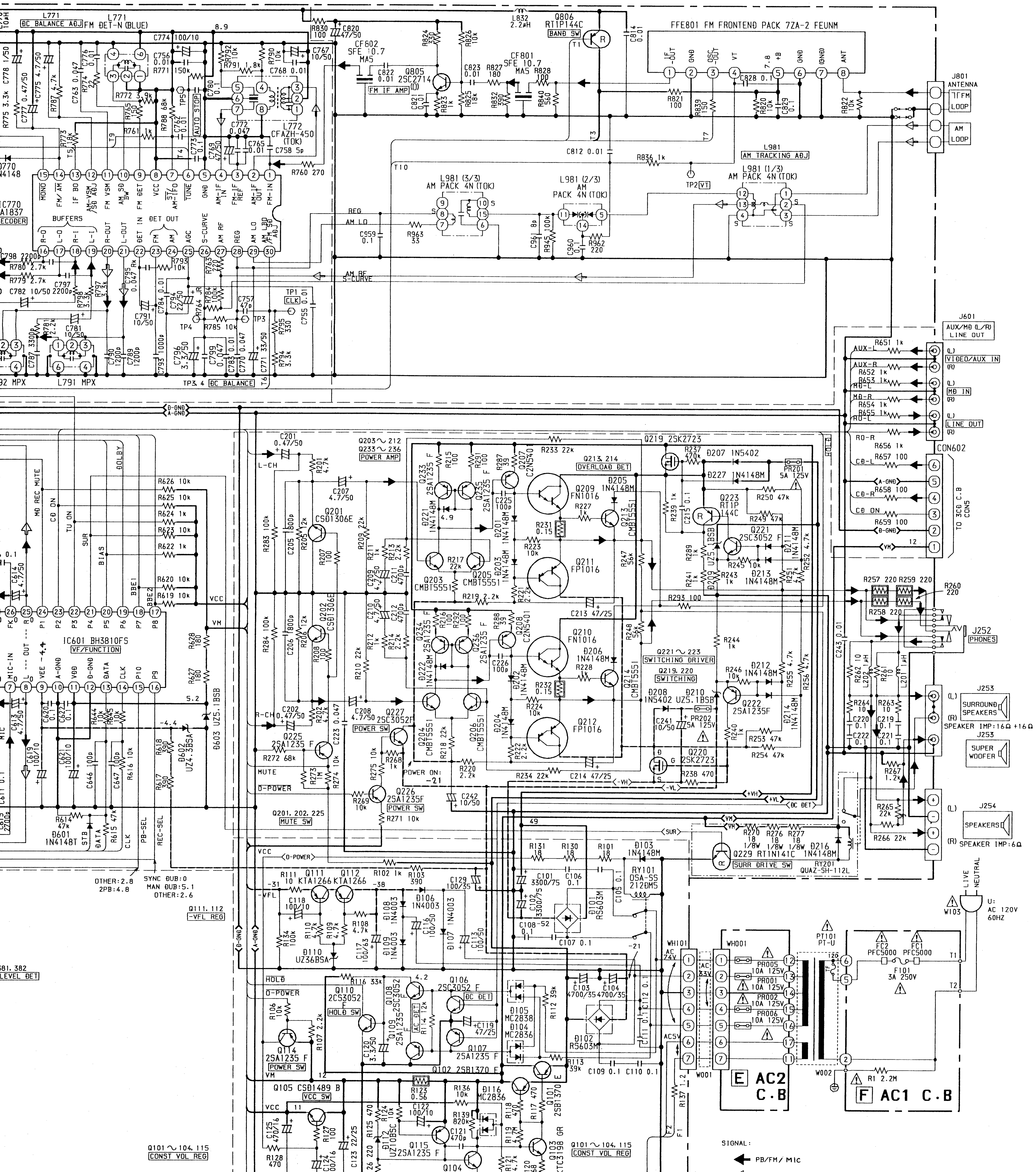

TO 3 CD C.B
CN102
BJ530GK 7NF-5
FL101
P1~P32
G1~G9
DISPLAY
LED INDICATOR
O-CLOCK
O-CDCE
O-DATA
I-WRQ
O-CD-LED
I-DBF
I-SUBQ
I-SW
O-TRAYCLS
O-TRAYOPN
O-DISHFWD
O-DISHREV
I-DISHSENS
SW101 ROTALY ENCODER
LED SW Q103
POWER SW Q108
CLOCK SHIFT SW Q101
RESET Q102
X101 5.76MHz
KEY INPUT
IC102 REMOTE SENSOR
MICRO-COMPUTER
IC101 LC866548V 5E15
MOTOR SW Q104, Q107
SOL1 SW Q106
SOL2 SW Q105
DIODE MATRIX
KEY SCAN SW Q301
CN104
TAPE
TO DECK C.B CON502
IC601 NJM4558 MD
MIC AMP
ALC Q601
J601
J602
MIC
IC380 BA3835S MD
SPECTRUM ANALYZER
IC501 BU9262AFS
DSP/ECOH
IC401 BH3864F
GEQ/T-BASS/E-VR
B FRONT C.B
PN101
CON601
DECK 2
PIN351
DECK 1
PIN301
REC/PB SW Q351, Q353 Q354, Q355
BIAS OSC Q358, Q359
BIAS OSC SW Q357
IC301 HA2211
REC PB AMP
IC302 CXA1553P
DOLBY
TUNER BLOCK
IC721 LC72310
IC770 LA1837
PLL-CE
DATA
CLK
TUNE/IFC
TM-BASE
TUNER SW
TUNER L
TUNER R
CON602
CD
TO 3 CD C.B
MUTE Q602
MS LEVEL DET Q381, Q382
MD REC MUTE Q603
IC601 BH3810FS
FUNC./V-F
J601
AUX/VIDEO
MD
LINE OUT
IC401 BA3880S
BBE
MUTE Q601
MUTE SW Q201
MUTE SW Q202
POWER AMP
Q203~212
Q233~236
AMP POWER SW Q226, Q227
SWITCHING Q219
SWITCHING DRIVER Q221 Q222 Q223
SWITCHING Q220
DC DET Q106, Q107
AC DET Q108, Q109
HOLD SW Q110
OVER LOAD DET Q213, Q214
SURR. SW Q229
SURR. RY201
J252 HEADPHONE JACK
SP OUT L
SURR. OUT
SP OUT R
A MAIN C.B
VCC SW Q105
POWER SW Q114
VM REG. Q101~104 Q115
-VFL REG. Q111, Q112
D101
D102
WH101
WH001
E AC2 C.B
PT101
F AC1 C.B
W103
71U:AC120V 60HZ
70LH, 74LH:AC120V/220-230V/240V 50/60HZ

WIRING – 1 (MAIN : 71U)


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
A MAIN C.B
FROM I HEAD-2 C.B
CON351
1 3 5 7 8
TO PIN351
FROM H HEAD-1 C.B
CON301
1 3
TO PIN301
PIN301
CON601
PN101
TO B FRONT C.B
AM LOOP
J801
ANTENNA
FM 75Ω
J601
VIDEO/AUX IN
TO 3CD C.B CN5
TO CON602
CON602
J601 MD IN
J601 LINE OUT
R
L
FROM E AC2 C.B WH001
W1
YEL/WHT
J253
SURROUND SPEAKERS
SPEAKERS IMP: 16Ω+16Ω
J253
SUPER WOOFER
J254
SPEAKERS
SPEAKER IMP: 6Ω
J252
PHONES
IC301
IC401
IC601
IC720
IC770
FFE801
CF801
CF802
L981
L770
RY101
RY201
WH101
TP1 (CLK)
TP2 (VT)
TP6 (LCH)
TP7 (RCH)
SFR301
SFR302
SFR303
SFR304
SFR305
SFR306
SFR351
SFR352
PR201
PR202

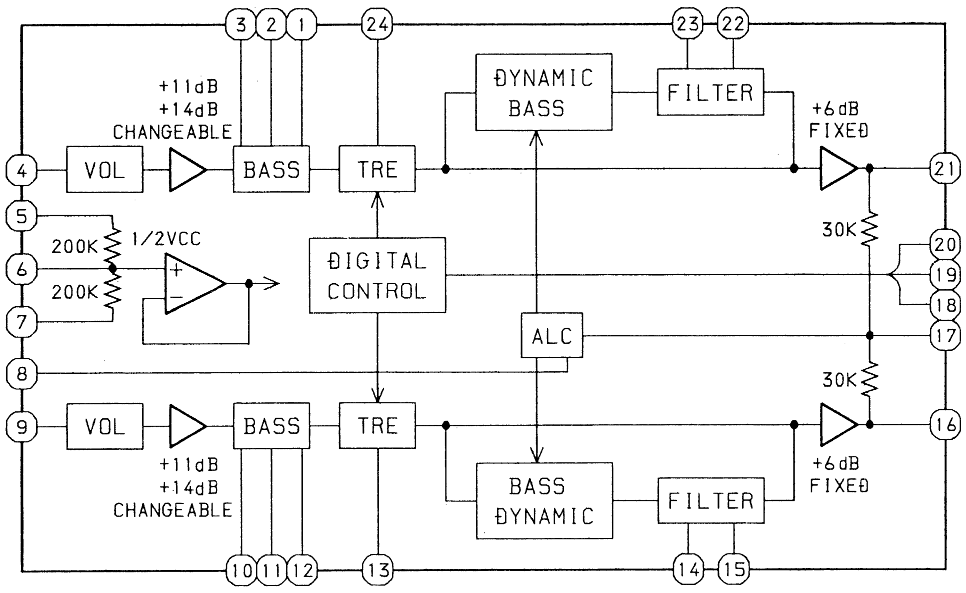
SCHEMATIC DIAGRAM – 1 (MAIN : 71U)


A MAIN C·B
CON601
SIG/MS
(NC) RDS-CLK
(NC) RDS-DATA
TM-BASE
CLK
DATA
TUNE/IFC
STEREO
STB
MUTE
PLL-CE
LHT
LH2
HSP
D-POWER
F1
F2
HOLD
VM
-VFL
D-GND
HP-MUTE
(NC) VCC
MIC
IN-L
IN-R
A-GND
OUT-L
OUT-R
A-GND
TO B FRONT C.B PN101
IC720 LC72131D (Z)
PLL
X721 4.500MHz CSA-309
D721 UZ5.6BSA
R711 470
Q711 CSD1489 B
TUNER SW
IC770 LA1837
DECODER
BUFFERS
L771 DC BALANCE ADJ
L771 FM DET-N (BLUE)
D770 1N4148
L792 MPX
L791 MPX
TP7 (RCH)
TP6 (LCH)
D-GND
A-GND
IC401 BA3880S BBE
TP2 FUNC OUT
D441 1N4148T
D442 MC2836
OFF:9.2 1:4.3 2:2.9 3:1.7
IC601 BH3810FS
VF/FUNCTION
Q603 RT1P141C
Q602 2SC3052
Q601 2SC3052
Q601~603 MD REC MUTE
D601 1N4148T
OTHER:2.8 2PB:4.8
I HEAD-2 C.B
AZIMUTH ADJ
DECK 2
EH
RPH
RCH
CON351
PIN351
SFR351, 352
REC/PB FREQ RESPONSE ADJ
L351 OSC 85K BIAS
BIAS OSC FREQ ADJ
Q358, 359 BIAS OSC
Q359 KTC3198 GR
Q358 KTC3198 GR
Q357 KTC3198 GR
BIAS SW
D352 MC2836
D351 1N4148
Q355 RT1P141C
Q351 Q354 Q353 2SK2158 2SK2158 2SK2158
Q351, 353~355, 360 REC/PB SW
L302 TRAP BIAS
L301 TRAP BIAS
SFR301~304 PB SENS ADJ
IC301 HA12211
REC PB AMP
DECK 1
CON301
PIN301
L CH
R CH
Q360 RT1N141C
H HEAD-1 C.B
AZIMUTH ADJ
DECK OUT
TP9
TP8
GND
IC302 CXA1553P
DOLBY AMP
DOLBY ON:0 DOLBY OFF:5
SFR305, 306
REC/PB SENSITIVITY ADJ
Q381, 382 MS LEVEL DET
Q382 2SC3052
Q381 2SC3052 F
MS

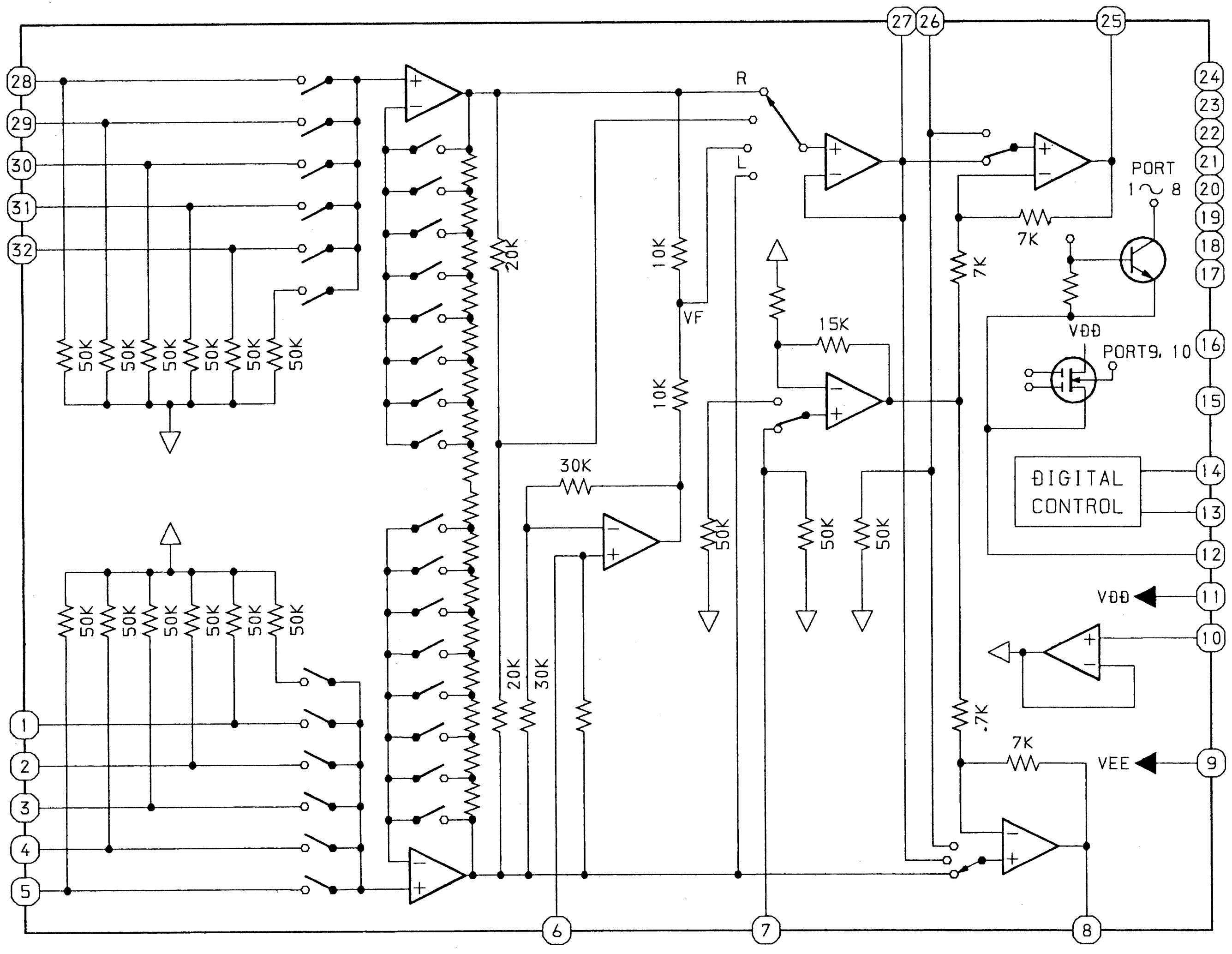

L771 DC BALANCE ADJ
L771 FM DET-N (BLUE)
FFE801 FM FRONTEND PACK 7ZA-2 FEUNM
Q806 RT1P144C BAND SW
CF602 SFE 10.7 MA5
Q805 2SC2714 FM IF AMP
CF801 SFE 10.7 MA5
L832 2.2µH
J801 ANTENNA
FM LOOP
AM LOOP
L772 CFAZH-450 (TOK)
AUTO STOP
IC770 LA1837 DECODER
BUFFERS
L981 AM TRACKING ADJ
L981 (1/3) AM PACK 4N (TOK)
L981 (2/3) AM PACK 4N (TOK)
L981 (3/3) AM PACK 4N (TOK)
TP1 CLK
TP2 VT
TP3, 4 DC BALANCE
L791 MPX
AM RF S-CURVE
REG
AM LO
J601 AUX/MD (L/R) LINE OUT
VIDEO/AUX IN
MD IN
LINE OUT
CON602
TO 3CD C.B CON5
IC601 BH3810FS VF/FUNCTION
D-GND
A-GND
Q203∼212 Q233∼236 POWER AMP
Q213, 214 OVERLOAD DET
Q219 2SK2723
Q201, 202, 225 MUTE SW
Q221∼223 SWITCHING DRIVER
Q219, 220 SWITCHING
Q227 2SC3052F POWER SW
Q226 2SA1235F POWER SW
POWER ON: -21
J252 PHONES
J253 SURROUND SPEAKERS
SPEAKER IMP: 16Ω +16Ω
J253 SUPER WOOFER
J254 SPEAKERS
SPEAKER IMP: 6Ω
Q229 RT1N141C SURR DRIVE SW
RY201 QUAZ-SH-112L
RY101 OSA-SS 212DM5
Q111, 112 -VFL REG
Q110 2SC3052 HOLD SW
Q108 2SC3052
Q109 2SA1235 AC DET
Q106 2SC3052 F DC DET
Q107 2SA1235 F
Q102 2SB1370 E
Q114 2SA1235 F POWER SW
Q105 CSD1489 B VCC SW
Q101∼104, 115 CONST VOL REG
Q101 2SB1370 E
Q103 KTC3198 GR
Q104 2SC3052 F
Q115 2SA1235 F
D101 RS603M
D102 RS603M
WH101
WH001
W001
W002
E AC2 C·B
F AC1 C·B
PT101 PT-U
PR005 10A 125V
PR001 10A 125V
PR002 10A 125V
PR006 10A 125V
FC2 PFC5000
FC1 PFC5000
F101 3A 250V
R1 2.2M
W103
LIVE
NEUTRAL
U: AC 120V 60HZ
OTHER: 2.8 2PB: 4.8
SYNC DUB: 0 MAN DUB: 5.1 OTHER: 2.6
SIGNAL:
PB/FM/MIC
REC/AM

IC BLOCK DIAGRAM – 1

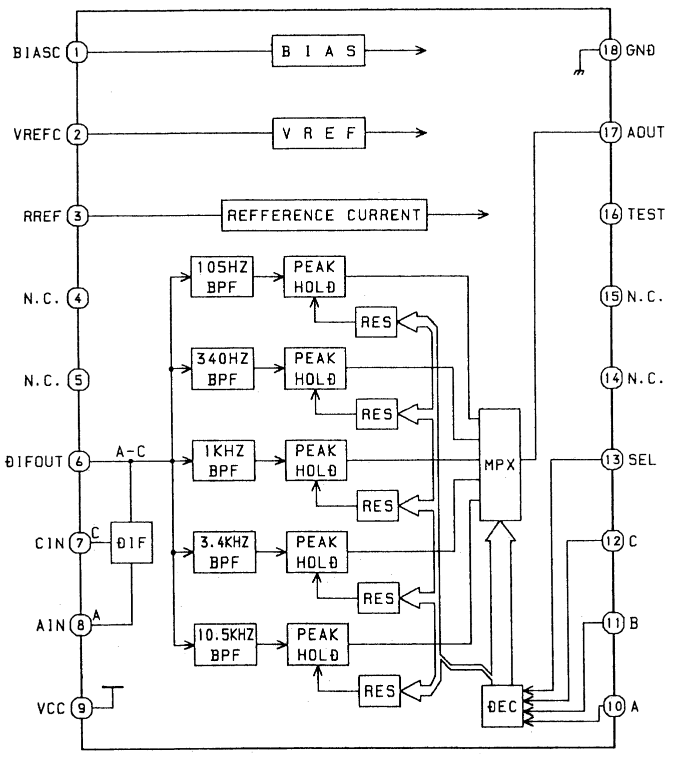
IC, BH3864F


3
2
1
24
23
22
DYNAMIC BASS
FILTER
+11dB
+14dB
CHANGEABLE
+6dB
FIXED
4
VOL
BASS
TRE
21
5
200K
1/2VCC
30K
20
6
200K
DIGITAL CONTROL
19
18
7
ALC
17
8
30K
9
VOL
BASS
TRE
16
+11dB
+14dB
CHANGEABLE
BASS DYNAMIC
FILTER
+6dB
FIXED
10
11
12
13
14
15

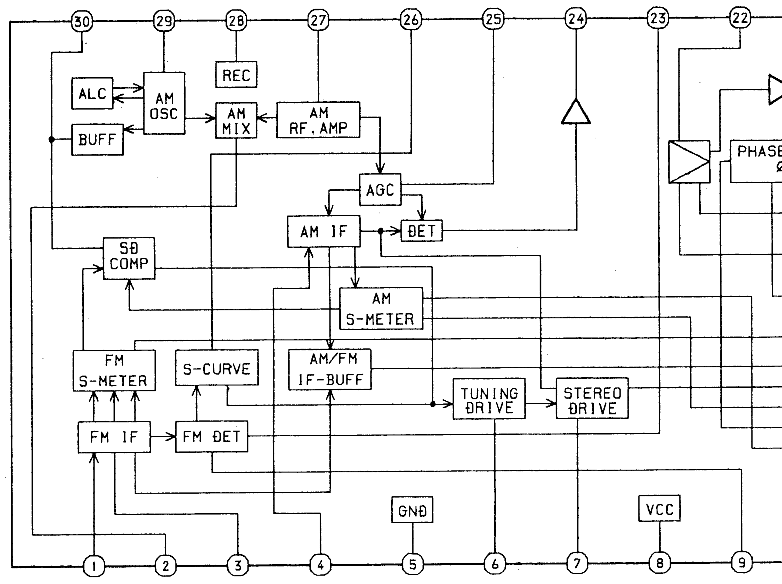
IC, BH810FS


27
26
25
28
29
30
31
32
R
L
PORT
1∼8
24
23
22
21
20
19
18
17
16
15
14
13
12
11
10
9
50K
20K
10K
VF
7K
15K
VDD
PORT9, 10
DIGITAL CONTROL
30K
VDD
VEE
1
2
3
4
5
6
7
8

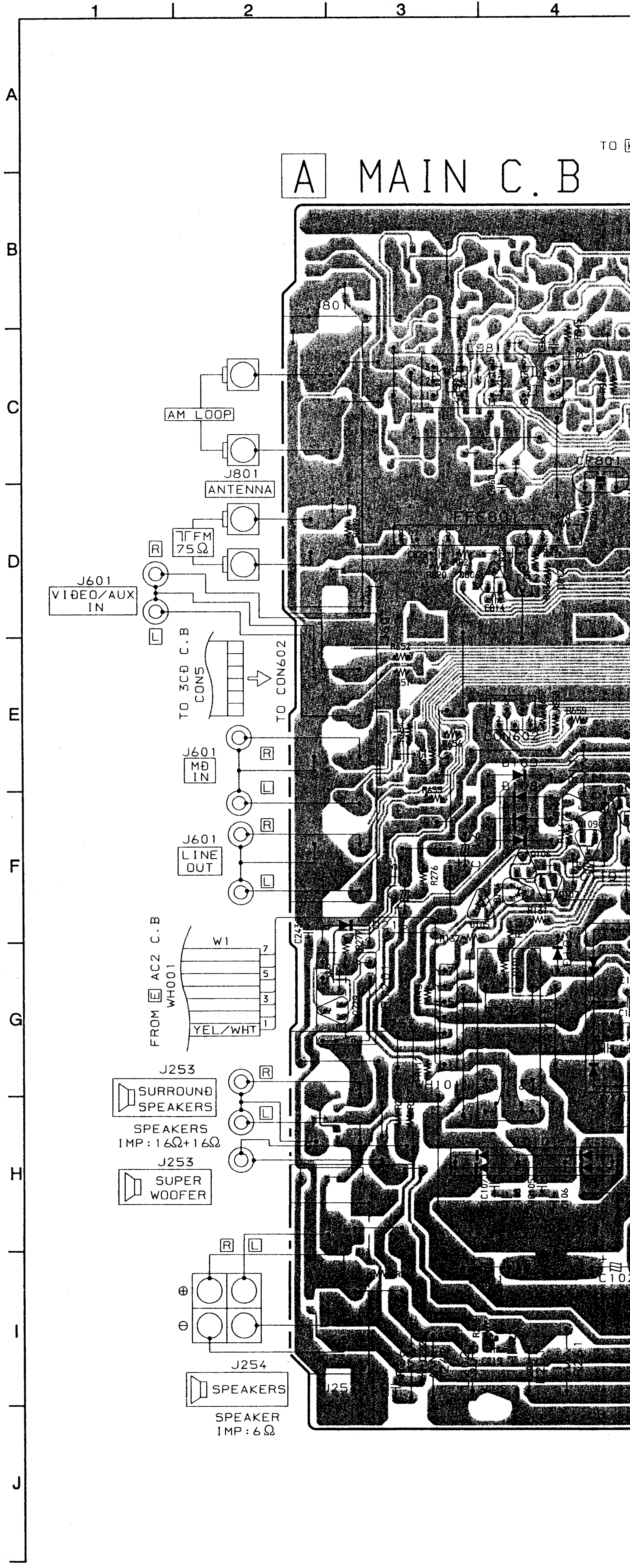
IC, BA3835S


BIASC 1
B I A S
18 GND
VREFC 2
V R E F
17 AOUT
RREF 3
REFFERENCE CURRENT
16 TEST
N.C. 4
105HZ BPF
PEAK HOLD
15 N.C.
RES
N.C. 5
340HZ BPF
PEAK HOLD
14 N.C.
RES
DIFOUT 6
A-C
1KHZ BPF
PEAK HOLD
MPX
13 SEL
RES
CIN 7
C
DIF
3.4KHZ BPF
PEAK HOLD
12 C
RES
AIN 8
A
10.5KHZ BPF
PEAK HOLD
11 B
RES
VCC 9
DEC
10 A

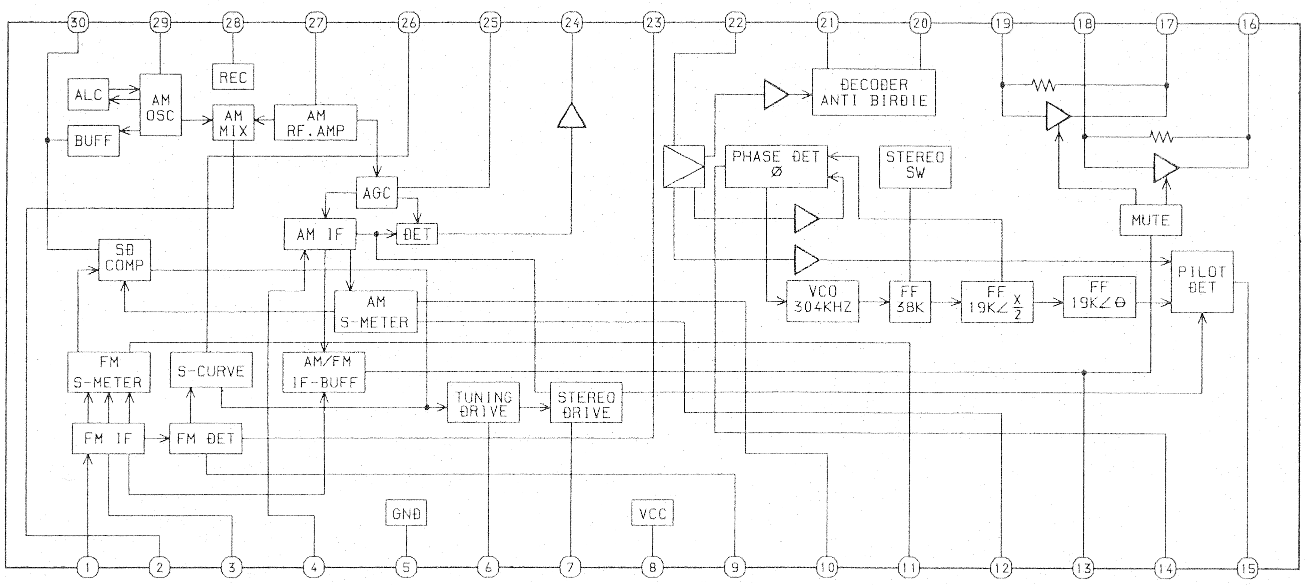
IC, LA1837


30
29
28
27
26
25
24
23
22
ALC
AM OSC
REC
AM MIX
AM RF.AMP
BUFF
AGC
PHASE
AM IF
DET
SD COMP
AM S-METER
FM S-METER
S-CURVE
AM/FM IF-BUFF
TUNING DRIVE
STEREO DRIVE
FM IF
FM DET
GND
VCC
1
2
3
4
5
6
7
8
9

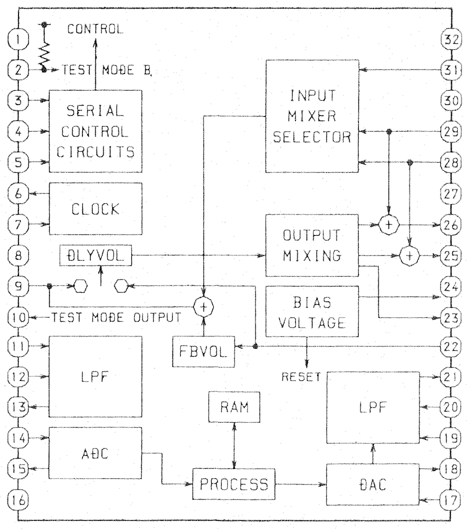
WIRING – 2 (MAIN : 70LH, 74LH)


1
2
3
4
A
B
C
D
E
F
G
H
I
J
A MAIN C.B
TO
AM LOOP
J801
ANTENNA
FM 75Ω
R
J601
VIDEO/AUX IN
L
TO 3CD C.B CON5
TO CON602
J601
MD IN
R
L
J601
LINE OUT
R
L
FROM E AC2 C.B WH001
W1
7
5
3
1
YEL/WHT
J253
SURROUND SPEAKERS
SPEAKERS
IMP : 16Ω+16Ω
R
L
J253
SUPER WOOFER
R
L
⊕
⊖
J254
SPEAKERS
SPEAKER
IMP : 6Ω

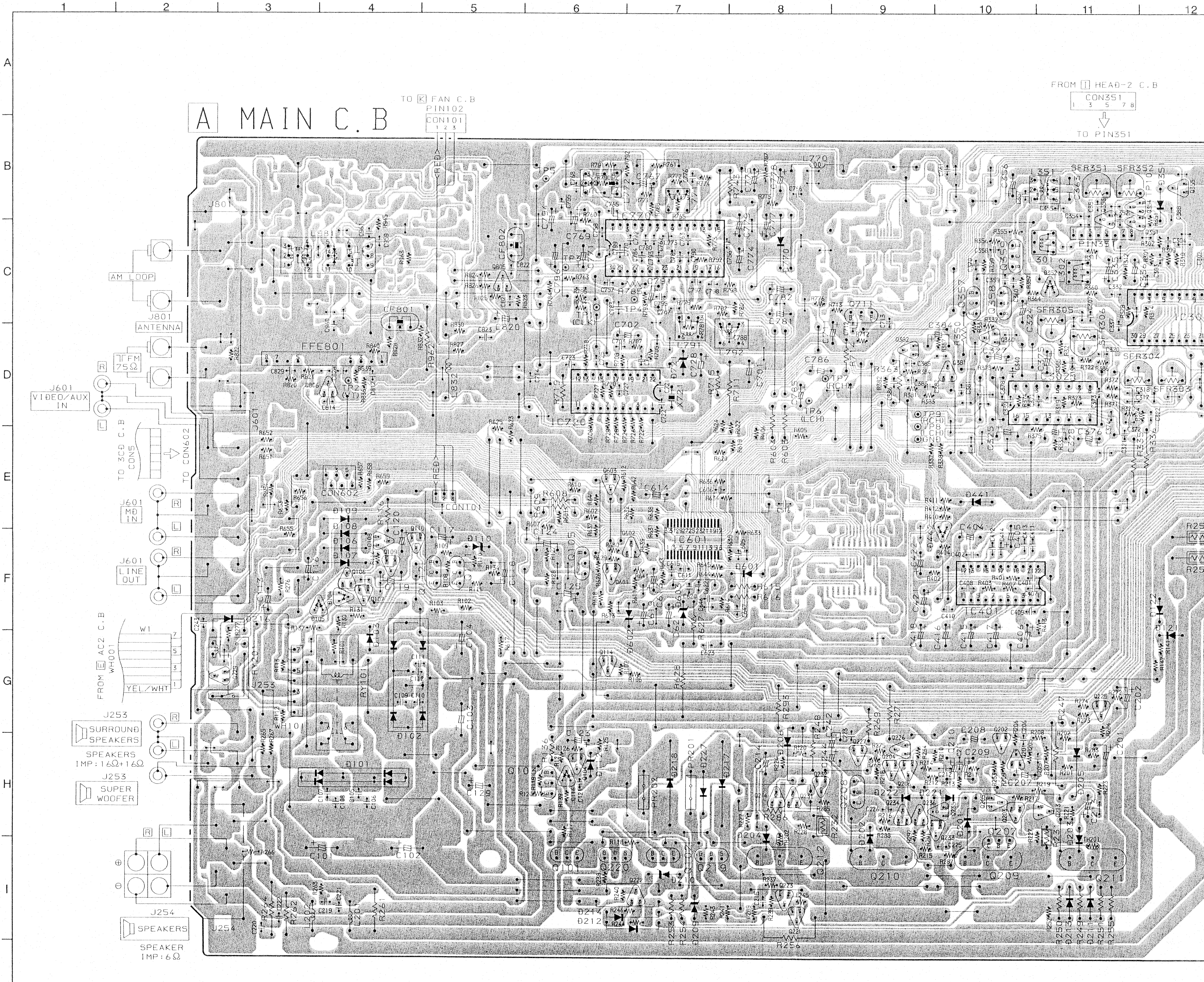
IC, LA1837

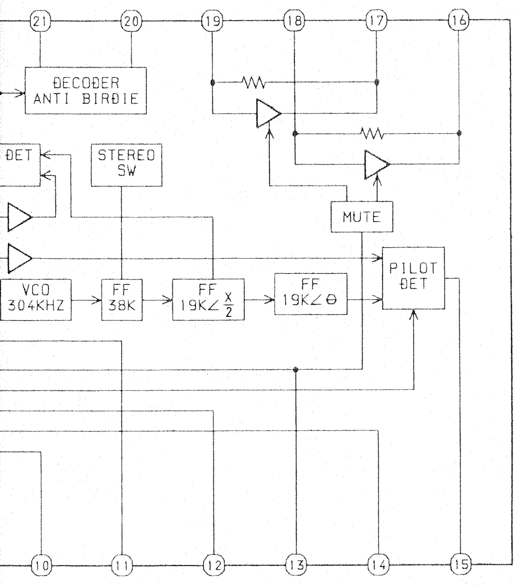

ALC
AM OSC
BUFF
REC
AM MIX
AM RF.AMP
AGC
AM IF
DET
SB COMP
AM S-METER
FM S-METER
S-CURVE
AM/FM IF-BUFF
FM IF
FM DET
TUNING DRIVE
STEREO DRIVE
GND
VCC
DECODER ANTI BIRDIE
PHASE DET Ø
STEREO SW
VCO 304KHZ
FF 38K
FF 19K∠ x/2
FF 19K∠θ
MUTE
PILOT DET
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
30 29 28 27 26 25 24 23 22 21 20 19 18 17 16

IC, BU9262FS

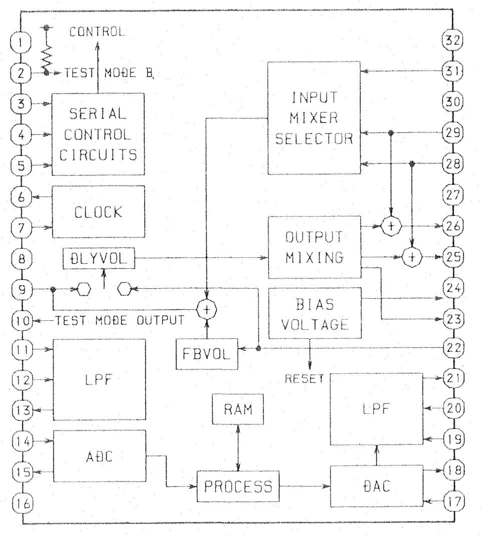

CONTROL
TEST MODE B
SERIAL CONTROL CIRCUITS
CLOCK
DLYVOL
TEST MODE OUTPUT
LPF
FBVOL
ADC
RAM
PROCESS
DAC
INPUT MIXER SELECTOR
OUTPUT MIXING
BIAS VOLTAGE
RESET
LPF
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17

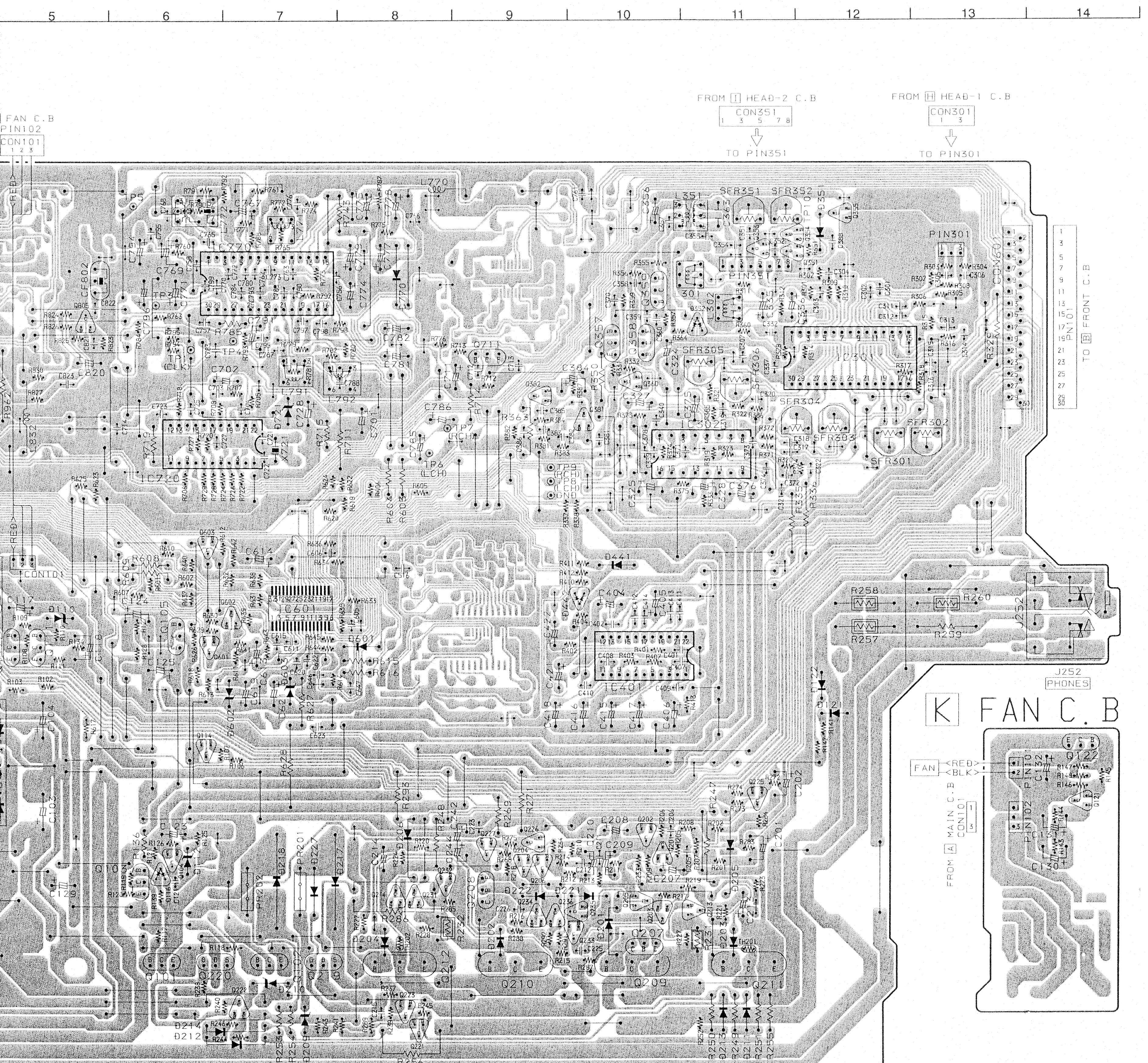
WIRING – 2 (MAIN : 70LH, 74LH)


1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G H I J
A MAIN C.B
TO K FAN C.B PIN102
CON101
FROM I HEAD-2 C.B
CON351
TO PIN351
AM LOOP
J801 ANTENNA
FM 75Ω
J601 VIDEO/AUX IN
TO 3CD C.B CON5
TO CON602
J601 MD IN
J601 LINE OUT
FROM E AC2 C.B WH001
W1
YEL/WHT
J253 SURROUND SPEAKERS
SPEAKERS IMP:16Ω+16Ω
J253 SUPER WOOFER
J254 SPEAKERS
SPEAKER IMP:6Ω
R L
IC720
IC601
IC401
IC301
FFE801
CF801
CF802
D101
D102
Q210
Q209
Q211

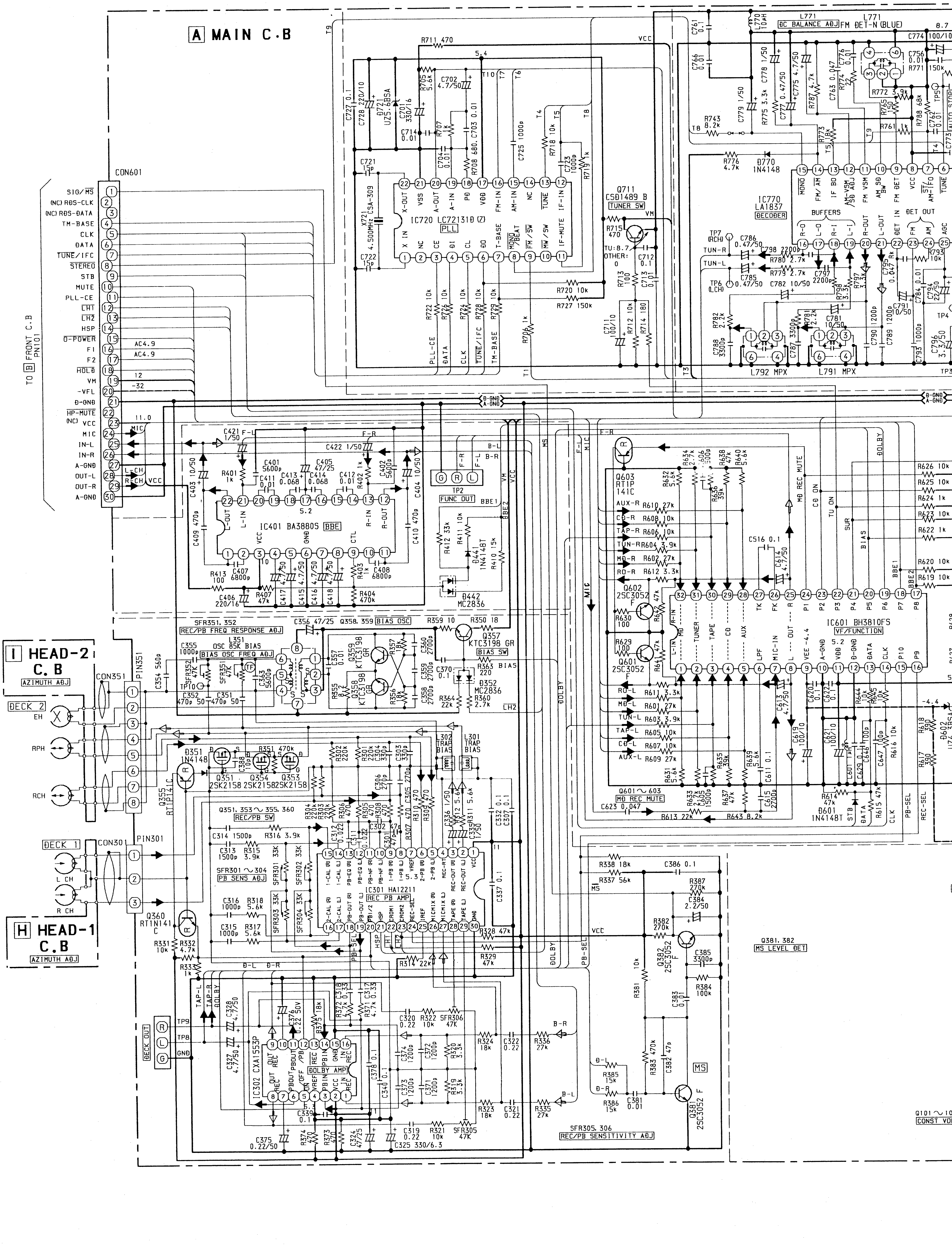

21
20
19
18
17
16
DECODER ANTI BIRDIE
DET
STEREO SW
MUTE
PILOT DET
VCO 304KHZ
FF 38K
FF 19K∠ x/2
FF 19K∠0
10
11
12
13
14
15

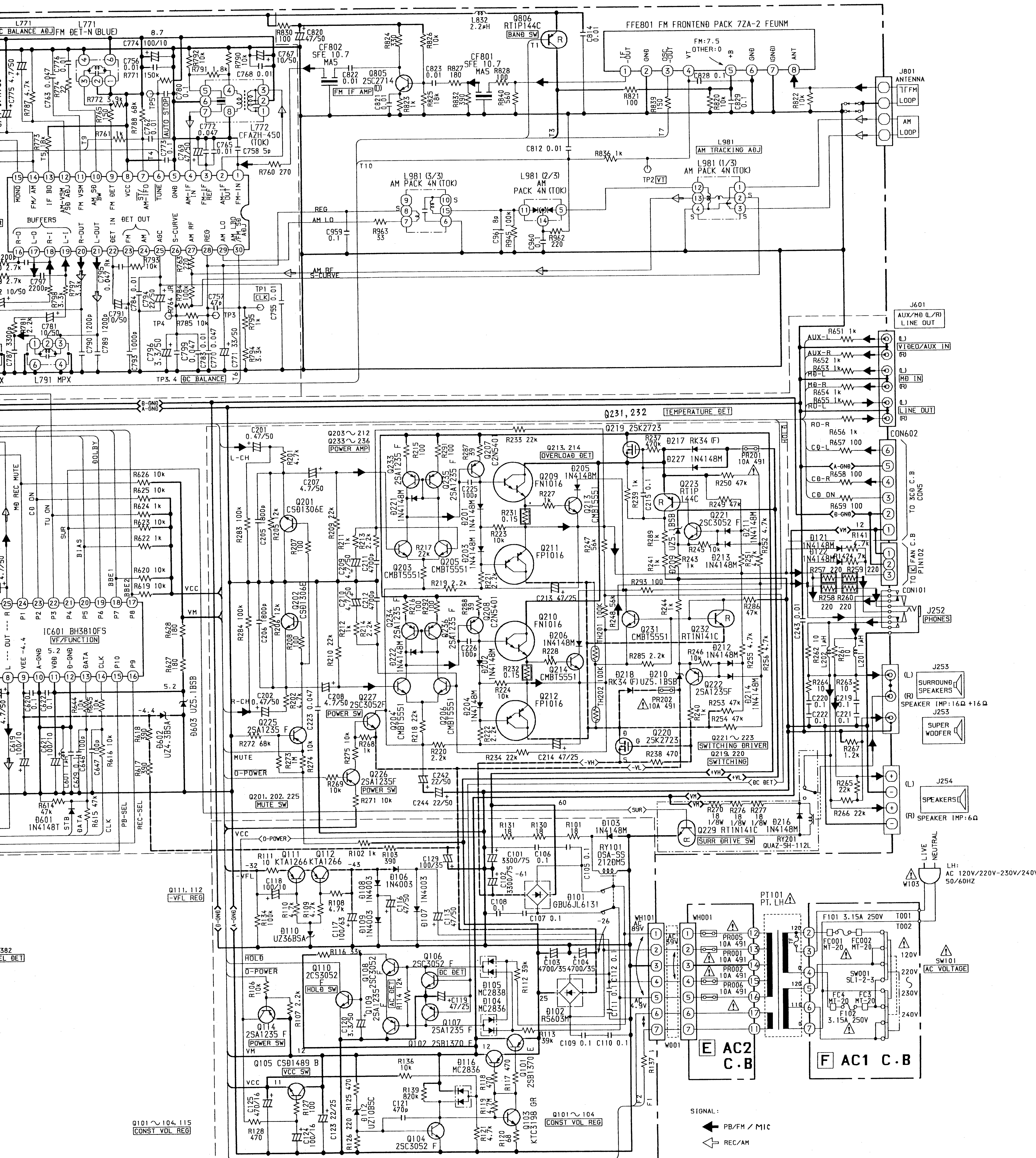
IC, BU9262FS


CONTROL
TEST MODE B
SERIAL CONTROL CIRCUITS
CLOCK
DLYVOL
TEST MODE OUTPUT
LPF
ADC
INPUT MIXER SELECTOR
OUTPUT MIXING
BIAS VOLTAGE
FBVOL
RESET
RAM
LPF
PROCESS
DAC

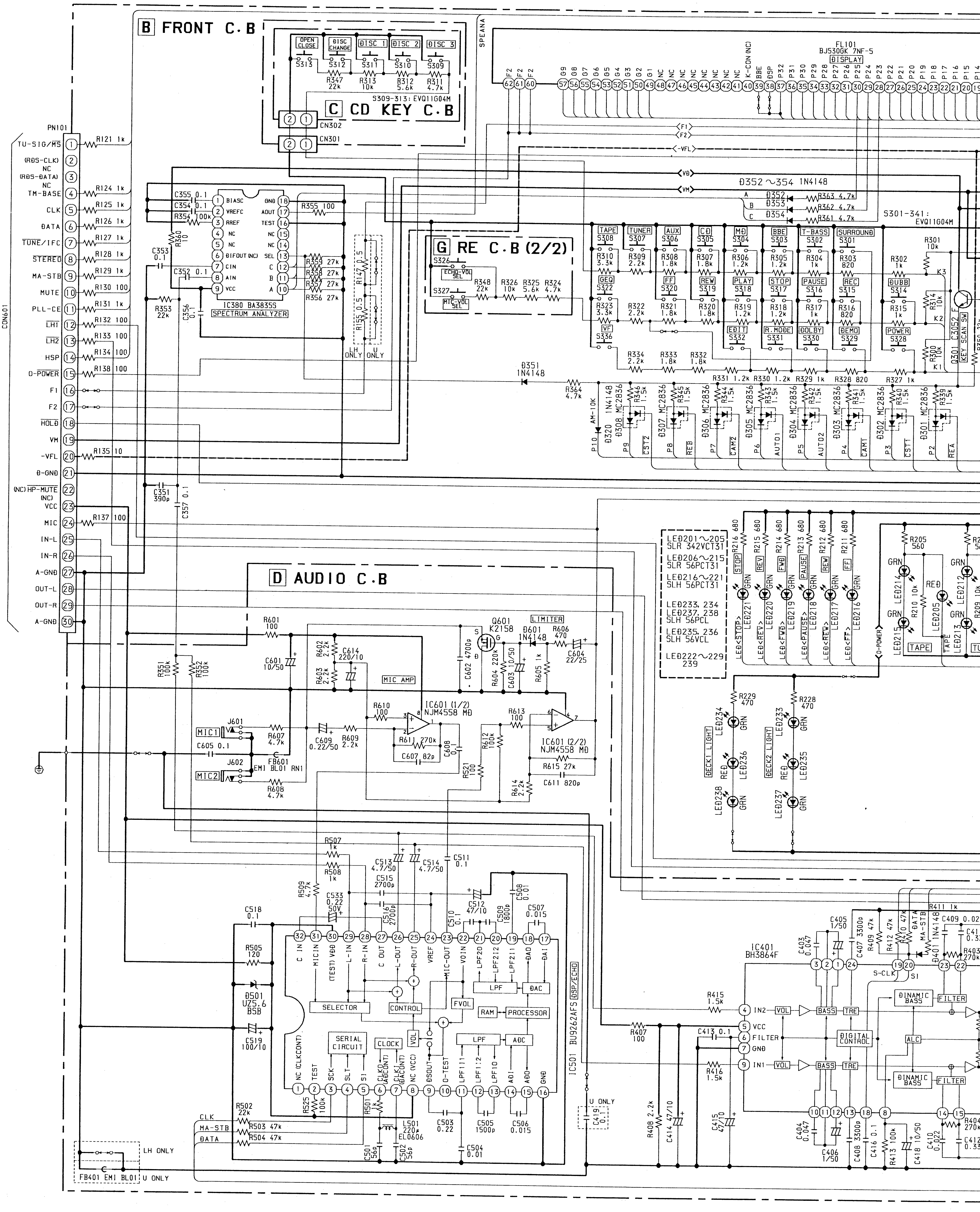

5
6
7
8
9
10
11
12
13
14
FROM I HEAD-2 C.B
CON351
TO PIN351
FROM H HEAD-1 C.B
CON301
TO PIN301
FAN C.B
PIN102
CON101
PIN301
TO B FRONT C.B
PIN101
IC770
IC720
IC601
IC401
J252
PHONES
K FAN C.B
FAN
<RED>
<BLK>
FROM A MAIN C.B
CON101

SCHEMATIC DIAGRAM – 2 (MAIN : 70LH, 74LH)

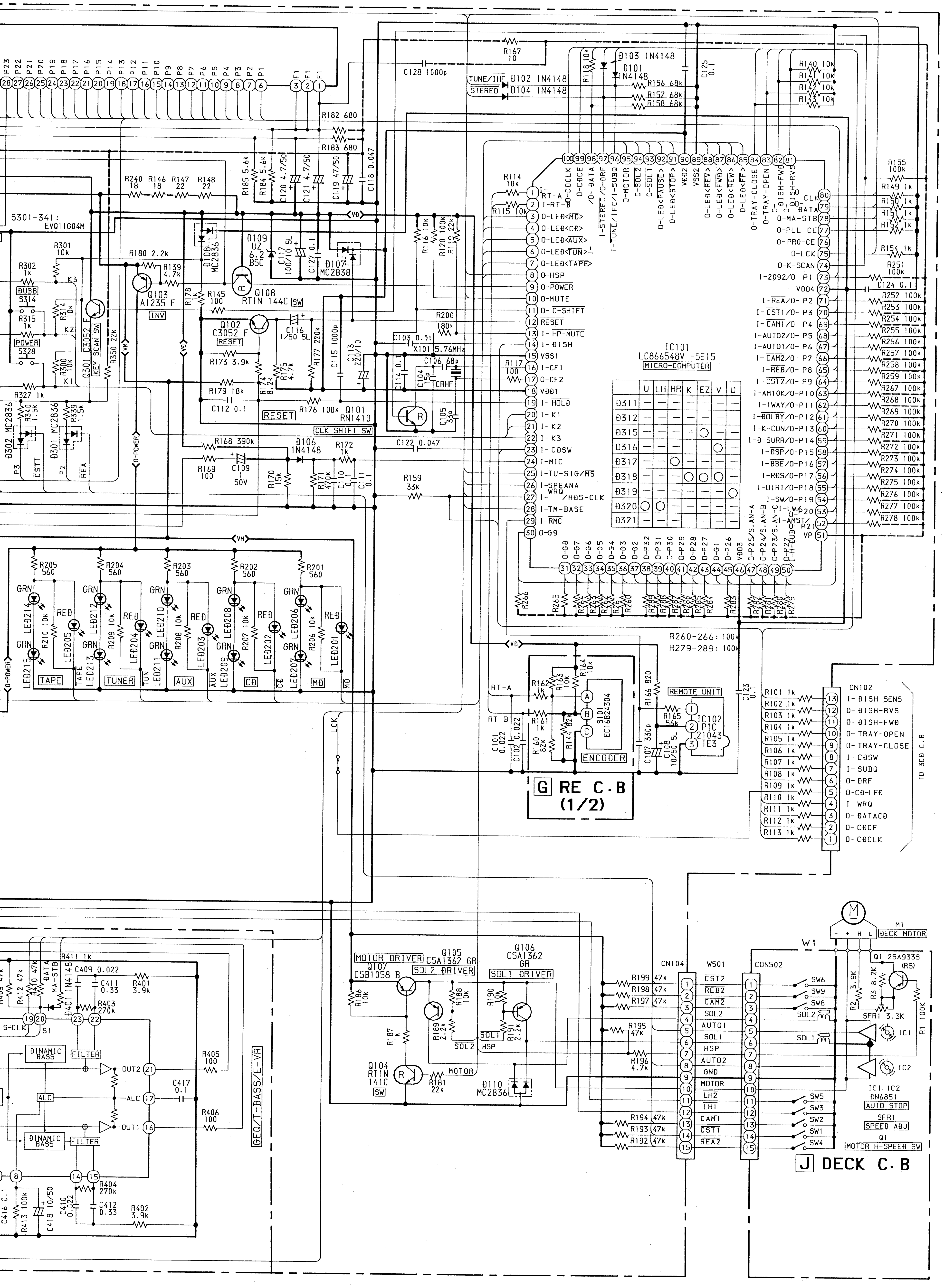

A MAIN C·B
CON601
TO B FRONT C.B PN101
SIG/MS
(NC) RDS-CLK
(NC) RDS-DATA
TM-BASE
CLK
DATA
TUNE/IFC
STEREO
STB
MUTE
PLL-CE
LH1
LH2
HSP
D-POWER
F1
F2
HOLD
VM
-VFL
D-GND
HP-MUTE
(NC) VCC
MIC
IN-L
IN-R
A-GND
OUT-L
OUT-R
A-GND
IC720 LC72131D (Z) PLL
X721 4.500MHz CSA-309
D721 UZ5.6BSA
Q711 CSD1489 B TUNER SW
TU:8.7 OTHER: 0
IC770 LA1837 DECODER
BUFFERS
L771 DC BALANCE ADJ
L771 FM DET-N (BLUE)
L792 MPX
L791 MPX
TP7 (RCH)
TP6 (LCH)
D770 1N4148
IC401 BA3880S BBE
TP2 FUNC OUT
D441 1N4148T
D442 MC2836
IC601 BH3810FS VF/FUNCTION
Q603 RT1P141C
Q602 2SC3052
Q601 2SC3052
Q601～603 MD REC MUTE
D601 1N4148T
I HEAD-2 C.B
AZIMUTH ADJ
CON351
PIN351
DECK 2
EH
RPH
RCH
SFR351, 352 REC/PB FREQ RESPONSE ADJ
L351 OSC 85K BIAS
BIAS OSC FREQ ADJ
Q358, 359 BIAS OSC
Q358 KTC3198 GR
Q359 KTC3198 GR
Q357 KTC3198 GR BIAS SW
D352 MC2836
L301 TRAP BIAS
L302 TRAP BIAS
Q351 2SK2158
Q354 2SK2158
Q353 2SK2158
D351 1N4148
Q355 RT1P141C
Q351, 353～355, 360 REC/PB SW
SFR301～304 PB SENS ADJ
IC301 HA12211 REC PB AMP
DECK 1
L CH
R CH
CON301
PIN301
Q360 RT1N141C
H HEAD-1 C.B
AZIMUTH ADJ
DECK OUT
TP9
TP8
GND
IC302 CXA1553P
DOLBY AMP
SFR305, 306 REC/PB SENSITIVITY ADJ
Q381, 382 MS LEVEL DET
Q382 2SC3052 F
Q381 2SC3052 F
MS
Q101～10 CONST VO


FFE801 FM FRONTEND PACK 7ZA-2 FEUNM
J801 ANTENNA
FM LOOP
AM LOOP
Q806 RT1P144C
BAND SW
CF802 SFE 10.7 MA5
Q805 2SC2714
FM IF AMP
CF801 SFE 10.7 MA5
L832 2.2μH
FM:7.5 OTHER:0
L771 FM DET-N (BLUE)
DC BALANCE ADJ
CFAZH-450 (TOK)
AUTO STOP
L981 AM TRACKING ADJ
L981 (3/3) AM PACK 4N (TOK)
L981 (2/3) AM PACK 4N (TOK)
L981 (1/3) AM PACK 4N (TOK)
TP2 VT
BUFFERS
DET OUT
L791 MPX
TP3, 4 DC BALANCE
AM RF S-CURVE
J601 AUX/MD (L/R) LINE OUT
VIDEO/AUX IN
MD IN
LINE OUT
CON602
TO 3CD C.B CON5
TO FAN C.B PIN102
CON101
J252 PHONES
J253 SURROUND SPEAKERS
SPEAKER IMP: 16Ω +16Ω
J253 SUPER WOOFER
J254 SPEAKERS
SPEAKER IMP: 6Ω
Q231, 232 TEMPERATURE DET
Q219 2SK2723
Q213, 214 OVERLOAD DET
Q203～212 Q233～236 POWER AMP
Q201 CSD1306E
Q202 CSD1306E
Q209 FN1016
Q210 FN1016
Q211 FP1016
Q212 FP1016
Q227 2SC3052F POWER SW
Q225 2SA1235 F
Q226 2SA1235F POWER SW
Q201, 202, 225 MUTE SW
Q221～223 SWITCHING DRIVER
Q219, 220 SWITCHING
Q229 RT1N141C SURR DRIVE SW
RY201 QUAZ-SH-112L
RY101 DSA-SS 212DM5
IC601 BH3810FS
VF/FUNCTION
Q111, 112 -VFL REG
Q111 KTA1266
Q112 KTA1266
D101 GBU6JL6131
D102 RS603M
Q110 2SC3052 F HOLD SW
Q108 2SC3052
Q109 2SA1235 F
AC DET
Q106 2SC3052 F DC DET
Q107 2SA1235 F
Q102 2SB1370 F
Q114 2SA1235 F POWER SW
Q105 CSD1489 B VCC SW
Q101 2SB1370
Q103 KTC3198 GR
Q104 2SC3052 F
Q101～104 CONST VOL REG
Q101～104, 115 CONST VOL REG
WH101
W001
WH001
PT101 PT. LH
E AC2 C・B
F AC1 C・B
F101 3.15A 250V
F102 3.15A 250V
SW001 SL1-2-3
SW101 AC VOLTAGE
120V
220V
230V
240V
W103
LIVE NEUTRAL
LH: AC 120V/220V-230V/240V 50/60HZ
SIGNAL:
PB/FM / MIC
REC/AM

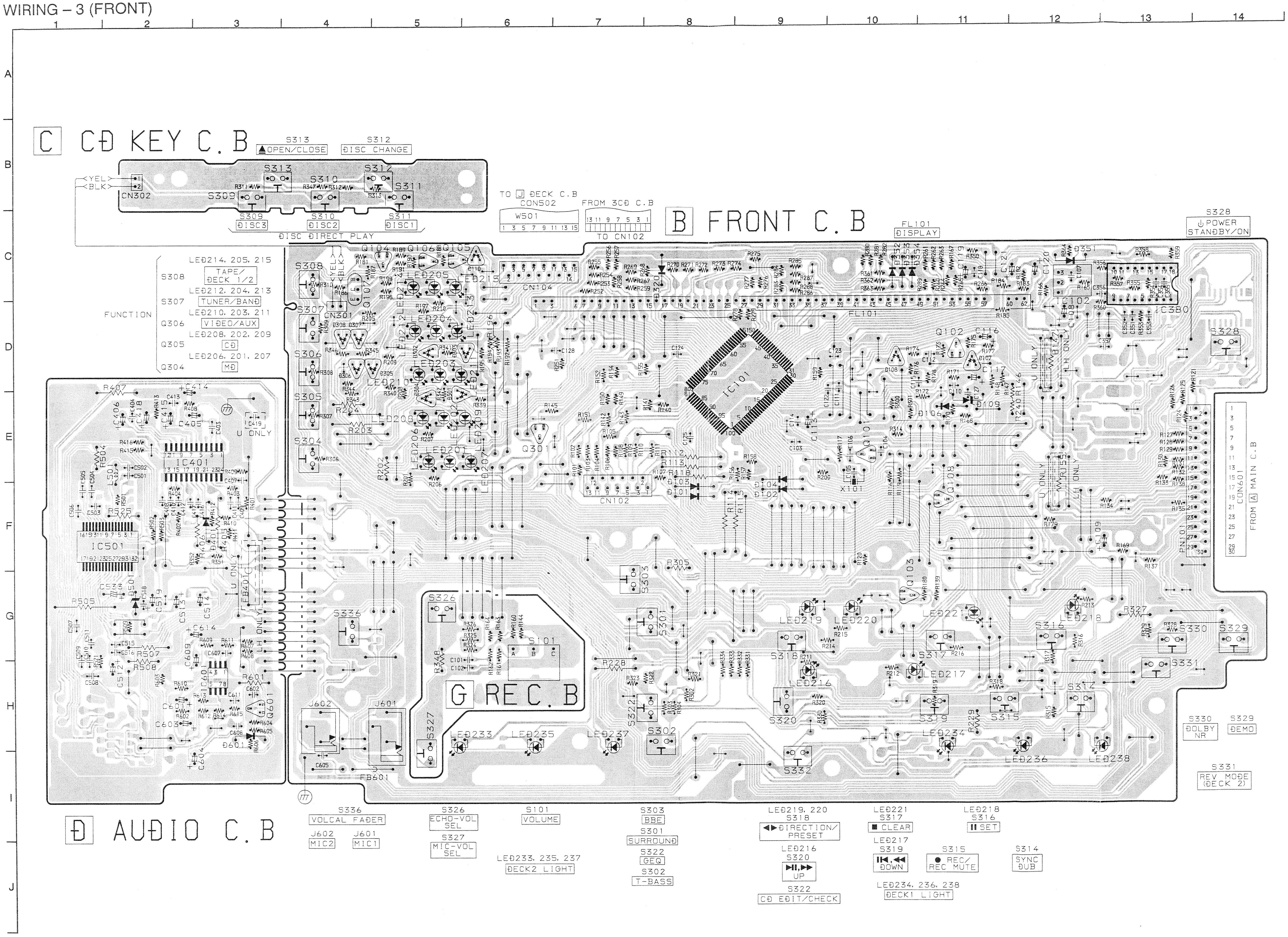
SCHEMATIC DIAGRAM – 3 (FRONT)



B FRONT C.B
C CD KEY C.B
D AUDIO C.B
G RE C.B (2/2)
PN101
TO A MAIN C.B CON601
TU-SIG/MS
(RDS-CLK)
NC
(RDS-DATA)
NC
TM-BASE
CLK
DATA
TUNE/IFC
STEREO
MA-STB
MUTE
PLL-CE
LH1
LH2
HSP
D-POWER
F1
F2
HOLD
VM
-VFL
D-GND
(NC) HP-MUTE
(NC)
VCC
MIC
IN-L
IN-R
A-GND
OUT-L
OUT-R
A-GND
OPEN CLOSE
DISC CHANGE
DISC 1
DISC 2
DISC 3
S309-313: EVQ11G04M
CN302
CN301
SPEANA
FL101
BJ530GK 7NF-5
DISPLAY
IC380 BA3835S
SPECTRUM ANALYZER
D352 ~354 1N4148
S301-341: EVQ11G04M
ECHO-VOL SEL
MIC-VOL SEL
TAPE
TUNER
AUX
CD
MD
BBE
T-BASS
SURROUND
GEQ
FF
REW
PLAY
STOP
PAUSE
REC
DUBB
POWER
VF
EDIT
R.MODE
DOLBY
DEMO
KEY SCAN SW
D351 1N4148
LH ONLY
U ONLY
LED201~205 SLR 342VCT31
LED206~215 SLR 56PCT31
LED216~221 SLH 56PCT31
LED233, 234 LED237, 238 SLH 56PCL
LED235, 236 SLH 56VCL
LED222~229 239
DECK1 LIGHT
DECK2 LIGHT
Q601 K2158
LIMITER
D601 1N4148
MIC AMP
IC601 (1/2) NJM4558 MD
IC601 (2/2) NJM4558 MD
MIC1
MIC2
J601
J602
FB601 EMI BLO1 RN1
IC501 BU9262AFS DSP/ECHO
SELECTOR
CONTROL
FVOL
LPF
DAC
RAM
PROCESSOR
SERIAL CIRCUIT
CLOCK
VOL
ADC
D501 UZ5.6 BSB
L501 220µ EL0606
FB401 EMI BL01
IC401 BH3864F
IN2
VCC
FILTER
GND
IN1
BASS
TRE
DINAMIC BASS
DIGITAL CONTROL
ALC
S-CLK
SI

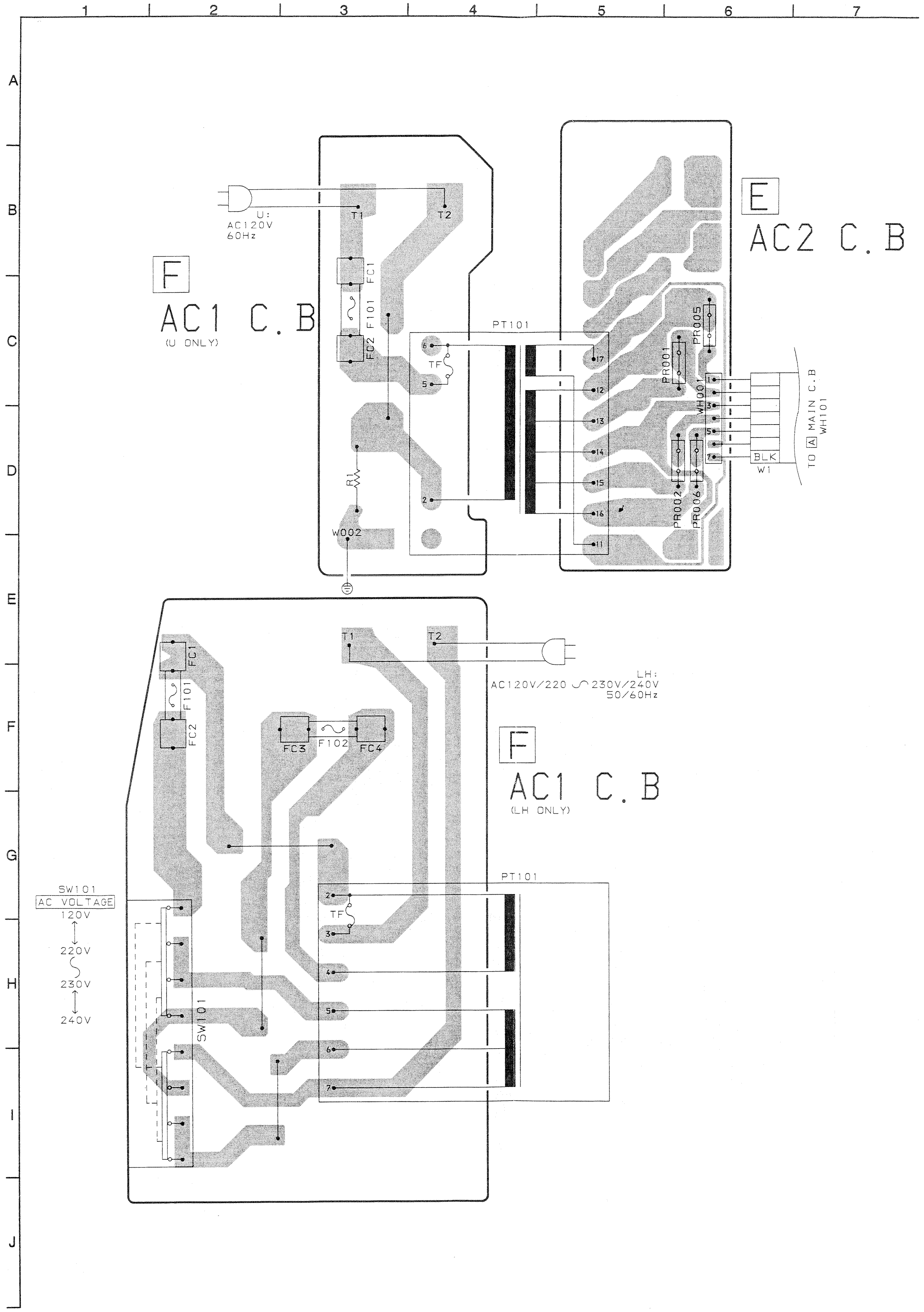

IC101
LC866548V -5E15
MICRO-COMPUTER
X101 5.76MHz
RESET
CLK SHIFT SW
Q101 RN1410
Q102 C3052 F
Q103 A1235 F
INV
Q108 RTIN 144C SW
D109 UZ 6.2 BSC
D107 MC2838
D108 MC2836
D103 1N4148
D101 1N4148
TUNE/IHF D102 1N4148
STEREO D104 1N4148
D106 1N4148
S301-341: EVQ11G04M
DUBB S314
POWER S328
Q301 C3052 F KEY SCAN SW
D302 MC2836
D301 MC2836
LED214 TAPE
LED213
LED212 TUNER
LED211
LED210 AUX
LED209
LED208 CD
LED207
LED206 MD
LED201
GRN
RED
D311
D312
D315
D316
D317
D318
D319
D320
D321
U
LH
HR
K
EZ
V
D
R260-266: 100k
R279-289: 100k
REMOTE UNIT
IC102 PIC 21043 TE3
S101 EC16B24304
ENCODER
G RE C.B (1/2)
CN102
I-DISH SENS
O-DISH-RVS
O-DISH-FWD
O-TRAY-OPEN
O-TRAY-CLOSE
I-CDSW
I-SUBQ
O-DRF
O-CD-LED
I-WRQ
O-DATACD
O-CDCE
O-CDCLK
TO 3CD C.B
MOTOR DRIVER
Q107 CSB1058 B
Q105 CSA1362 GR
SOL2 DRIVER
Q106 CSA1362 GR
SOL1 DRIVER
Q104 RT1N 141C SW
D110 MC2836L
CN104
W501
CST2
REB2
CAM2
SOL2
AUTO1
SOL1
HSP
AUTO2
GND
MOTOR
LH2
LH1
CAM1
CST1
REA2
CON502
SW6
SW9
SW8
SW5
SW3
SW2
SW1
SW4
M1 DECK MOTOR
W1
Q1 2SA933S (RS)
SFR1 3.3K
IC1
IC2
IC1, IC2 DN6851
AUTO STOP
SFR1 SPEED ADJ
Q1 MOTOR H-SPEED SW
J DECK C.B
DYNAMIC BASS
FILTER
ALC
OUT2
OUT1
GEQ/T-BASS/E-VR
S-CLK
D401 1N4148
MA-STB
DATA

WIRING – 3 (FRONT)

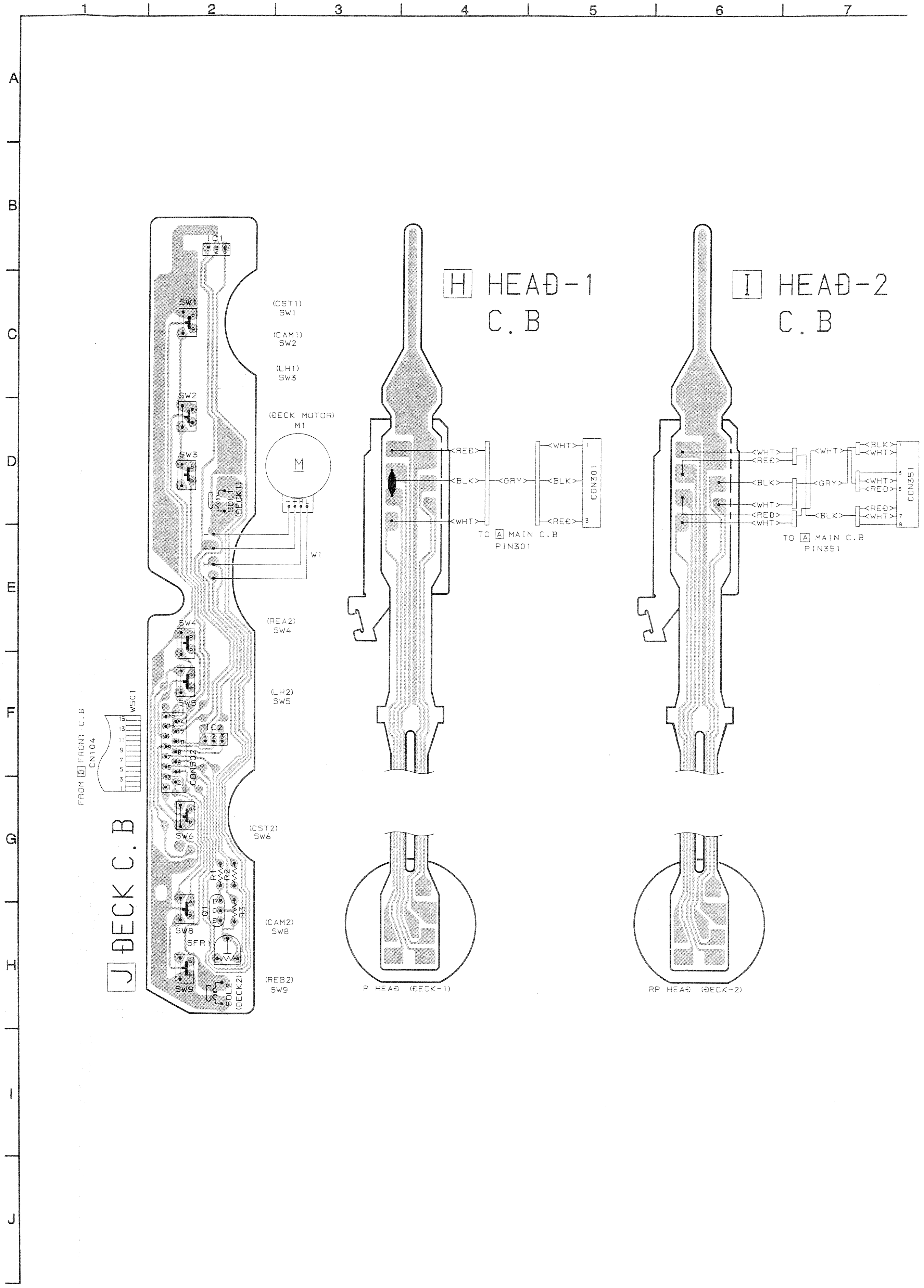


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
C CD KEY C.B
S313
▲OPEN/CLOSE
S312
DISC CHANGE
YEL
BLK
CN302
S309
S310
S311
DISC3
DISC2
DISC1
DISC DIRECT PLAY
TO J DECK C.B
CON502
W501
FROM 3CD C.B
TO CN102
B FRONT C.B
FL101
DISPLAY
S328
⏻POWER
STANDBY/ON
LED214, 205, 215
S308
TAPE/
DECK 1/2
LED212, 204, 213
S307
TUNER/BAND
FUNCTION
LED210, 203, 211
Q306
VIDEO/AUX
LED208, 202, 209
Q305
CD
LED206, 201, 207
Q304
MD
CN104
CN301
CN102
IC101
IC380
IC401
IC501
CN601
FROM A MAIN C.B
PN101
U ONLY
LH ONLY
S336
S326
S101
S303
S301
S322
S302
S332
S320
S318
S317
S319
S315
S316
S314
S330
S329
S331
S327
J602
J601
FB601
G REC.B
D AUDIO C.B
LED233
LED235
LED237
LED219
LED220
LED221
LED216
LED217
LED218
LED234
LED236
LED238
S330
DOLBY NR
S329
DEMO
S331
REV MODE
(DECK 2)
S336
VOLCAL FADER
J602
MIC2
J601
MIC1
S326
ECHO-VOL
SEL
S327
MIC-VOL
SEL
S101
VOLUME
LED233, 235, 237
DECK2 LIGHT
S303
BBE
S301
SURROUND
S322
GEQ
S302
T-BASS
LED219, 220
S318
◀▶DIRECTION/
PRESET
LED216
S320
▶II,▶▶
UP
S322
CD EDIT/CHECK
LED221
S317
■ CLEAR
LED217
S319
I◀◀,◀◀
DOWN
S315
● REC/
REC MUTE
LED218
S316
II SET
S314
SYNC
DUB
LED234, 236, 238
DECK1 LIGHT

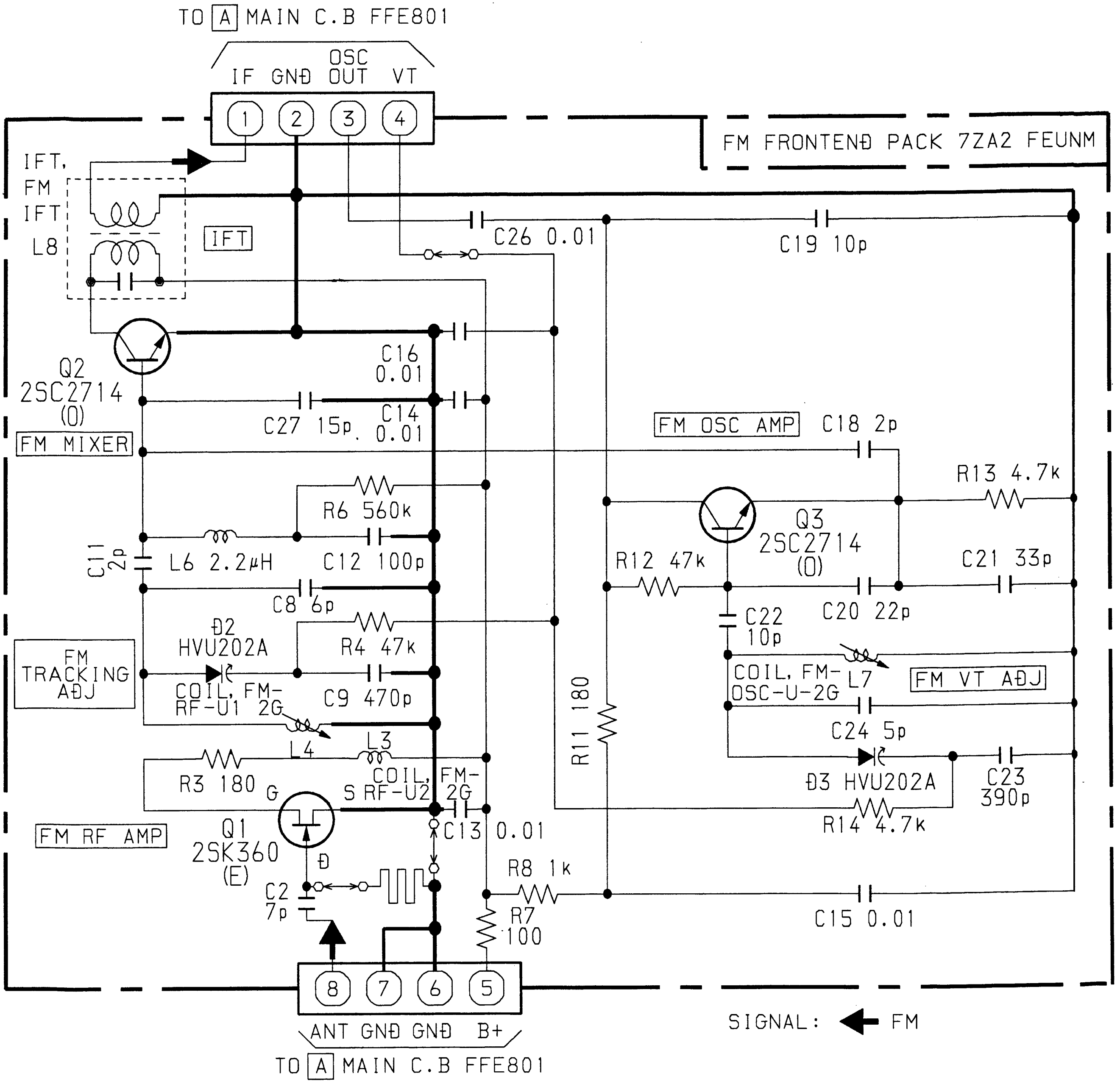
WIRING – 4 (PT)

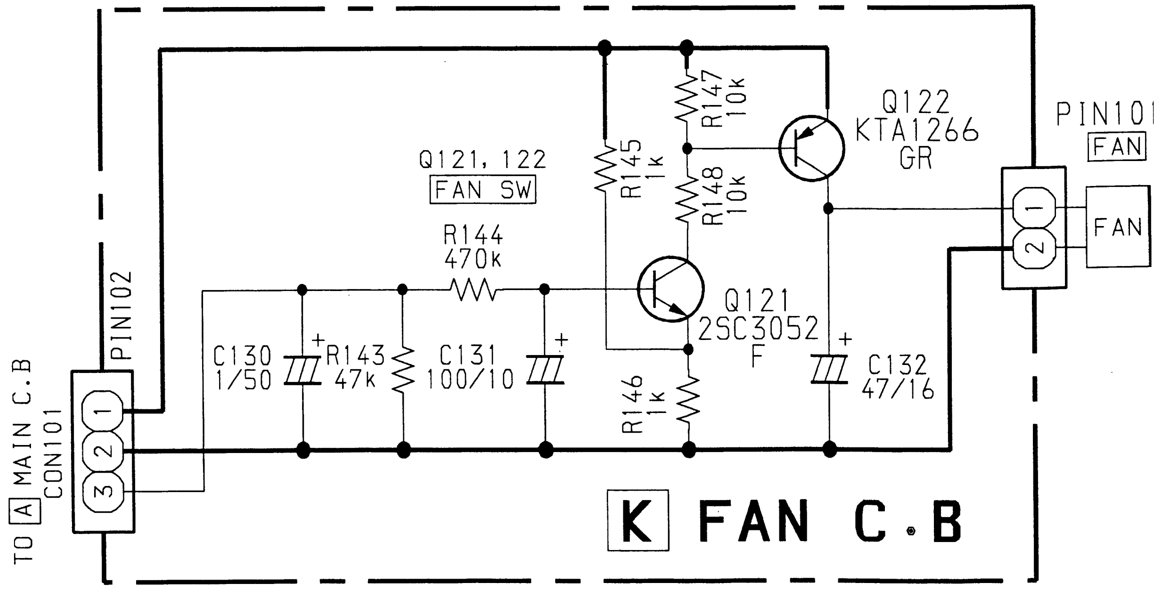

1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
U:
AC120V
60Hz
T1
T2
F
AC1 C.B
(U ONLY)
FC1
F101
FC2
R1
W002
PT101
TF
E
AC2 C.B
PR005
PR001
WH001
PR002
PR006
BLK
W1
TO A MAIN C.B
WH101
LH:
AC120V/220 ∽ 230V/240V
50/60Hz
F102
FC3
FC4
F
AC1 C.B
(LH ONLY)
SW101
AC VOLTAGE
120V
220V
230V
240V
SW101

WIRING – 5 (DECK)


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
IC1
SW1
SW2
SW3
(CST1)
SW1
(CAM1)
SW2
(LH1)
SW3
(DECK MOTOR)
M1
M
SOL1
(DECK1)
W1
SW4
(REA2)
SW4
SW5
(LH2)
SW5
IC2
CON502
W501
FROM B FRONT C.B
CN104
SW6
(CST2)
SW6
R1
R2
R3
Q1
SW8
SFR1
(CAM2)
SW8
SW9
SOL2
(DECK2)
(REB2)
SW9
J DECK C.B
H HEAD-1
C.B
<RED>
<BLK>
<WHT>
<GRY>
<WHT>
<BLK>
<RED>
CON301
TO A MAIN C.B
PIN301
P HEAD (DECK-1)
I HEAD-2
C.B
<WHT>
<RED>
<BLK>
<WHT>
<RED>
<WHT>
<GRY>
<BLK>
CON351
TO A MAIN C.B
PIN351
RP HEAD (DECK-2)

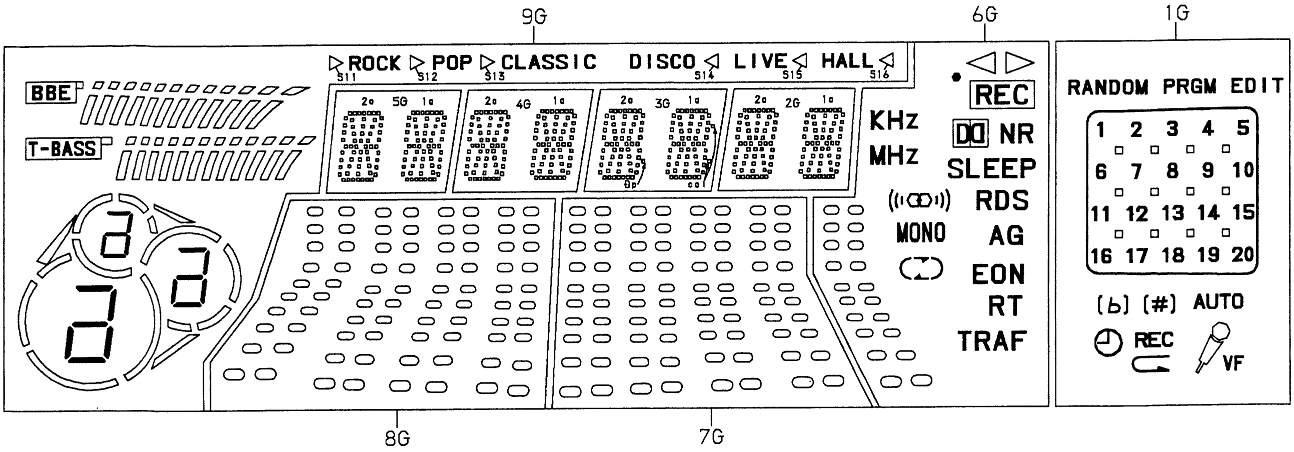
SCHEMATIC DIAGRAM – 4 (TUNER FRONTEND / FAN)

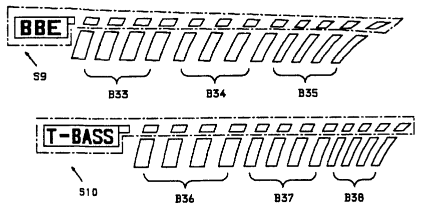

TO A MAIN C.B FFE801
IF
GND
OSC OUT
VT
1
2
3
4
FM FRONTEND PACK 7ZA2 FEUNM
IFT, FM IFT L8
IFT
C26 0.01
C19 10p
Q2 2SC2714 (O)
FM MIXER
C16 0.01
C27 15p
C14 0.01
FM OSC AMP
C18 2p
R13 4.7k
R6 560k
Q3 2SC2714 (O)
C11 2p
L6 2.2μH
C12 100p
R12 47k
C21 33p
C8 6p
C20 22p
C22 10p
D2 HVU202A
R4 47k
FM TRACKING ADJ
COIL, FM-RF-U1 2G
C9 470p
COIL, FM-OSC-U-2G
L7
FM VT ADJ
R11 180
C24 5p
L4
L3
R3 180
COIL, FM-RF-U2 2G
D3 HVU202A
C23 390p
G
S
R14 4.7k
FM RF AMP
Q1 2SK360 (E)
D
C13 0.01
R8 1k
C2 7p
R7 100
C15 0.01
8
7
6
5
ANT
GND
GND
B+
TO A MAIN C.B FFE801
SIGNAL: FM

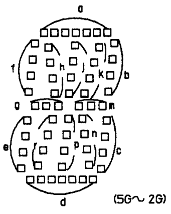

R147 10k
Q122 KTA1266 GR
PIN101
FAN
R145 1k
Q121, 122
FAN SW
R148 10k
FAN
R144 470k
Q121 2SC3052 F
PIN102
C130 1/50
R143 47k
C131 100/10
C132 47/16
R146 1k
TO A MAIN C.B CON101
1
2
3
K FAN C.B

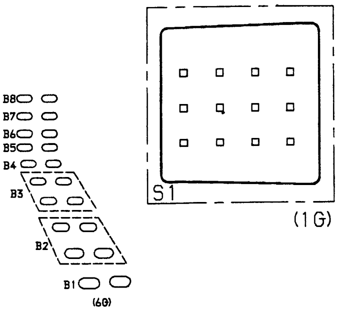
FL GRID ASSIGNMENT & ANODE CONNECTION

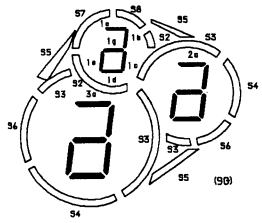
FL, BJ530 JK
GRID ASSIGNMENT

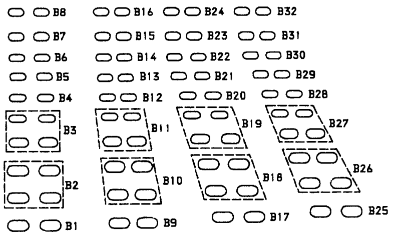

9G
6G
1G
BBE
T-BASS
ROCK
POP
CLASSIC
DISCO
LIVE
HALL
S11
S12
S13
S14
S15
S16
2a
5G
1a
4G
3G
2G
REC
KHz
MHz
NR
SLEEP
RDS
MONO
AG
EON
RT
TRAF
RANDOM PRGM EDIT
1 2 3 4 5
6 7 8 9 10
11 12 13 14 15
16 17 18 19 20
(♭) (#) AUTO
REC
VF
8G
7G


BBE
S9
B33
B34
B35
T-BASS
S10
B36
B37
B38


a
f
h
i
j
k
b
g
m
e
n
p
c
d
(5G~2G)


B8
B7
B6
B5
B4
B3
B2
B1
(6G)
S1
(1G)


S7
S8
S5
S2
S3
S1
1a
1b
1c
1d
1e
2a
3a
S4
S6
(9G)


B8
B16
B24
B32
B7
B15
B23
B31
B6
B14
B22
B30
B5
B13
B21
B29
B4
B12
B20
B28
B3
B11
B19
B27
B2
B10
B18
B26
B1
B9
B17
B25

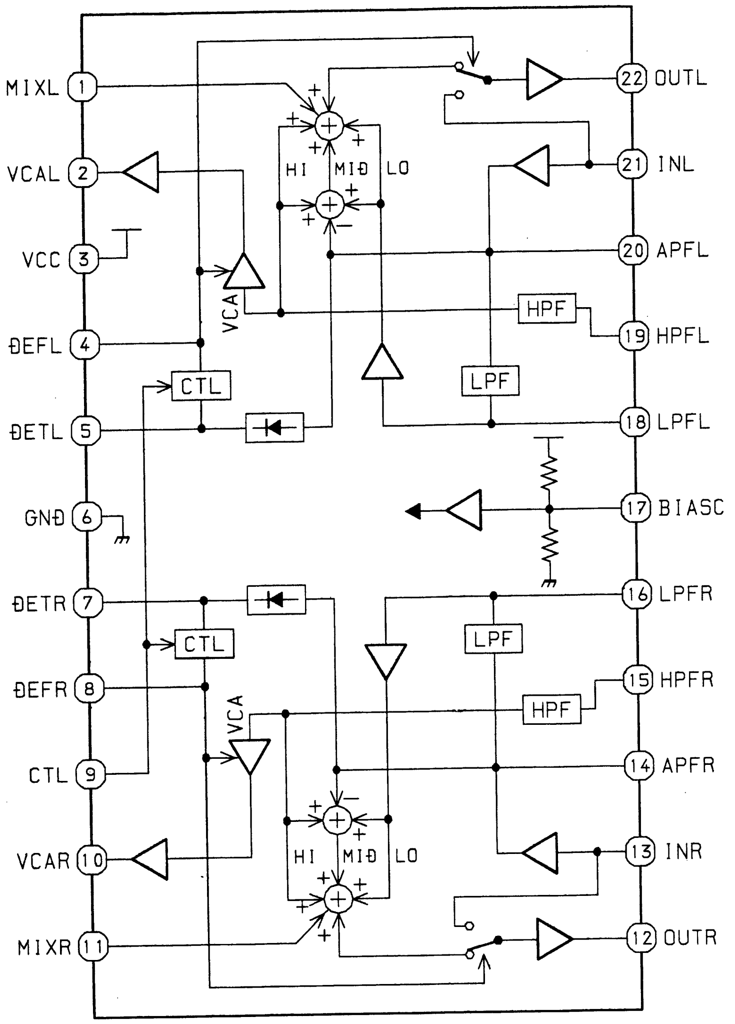
[8G, 7G]

ANODE CONNECTION

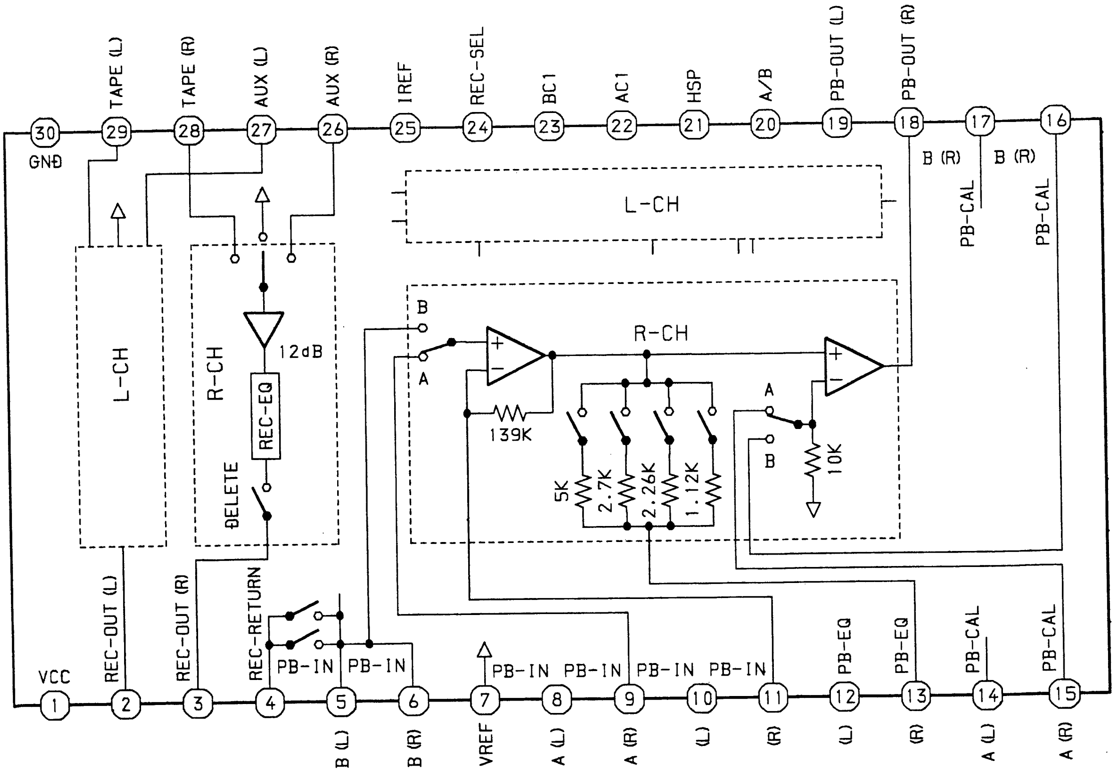
	9G	8G, 7G	6G	5G, 4G	3G	2G	1G
P1	S8	B32	▷	–	col (down)	–	RANDOM
P2	S2	B24	◁	1d	1d	1d	–
P3	1b	B16	SLEEP	1n	1n	1n	PRGM
P4	1c	B8	B8	1p	1p	1p	EDIT
P5	1e	B31	○	1r	1r	1r	1
P6	1a, 1d, 1g	B23	REC	1e	1e	1e	2
P7	2b	B15	KHz	1c	1c	1c	3
P8	2c	B7	B7	1g	1g	1g	4
P9	2e	B30	MHz	1m	1m	1m	5
P10	2a, 2d, 2g	B22	–	1f	1f	1f	6
P11	3b	B14	DD NR	1b	1b	1b	7
P12	3c	B6	B6	1k	1k	1k	8
P13	3e	B29	RDS	1j	1j	1j	9
P14	3a, 3d, 3g	B21	–	1h	1h	1h	10
P15	S3	B13	–	1a	1a	1a	11
P16	S5	B5	B5	–	col (up)	–	12
P17	S7	B28	–	–	Đp	–	13
P18	S4	B20	–	2d	2d	2d	14
P19	S6	B12	–	2n	2n	2n	15
P20	S16	B4	B4	2p	2p	2p	16
P21	S15	B27	AG	2r	2r	2r	17
P22	S14	B19	((·ꝏ·))	2e	2e	2e	18
P23	S13	B11	EON	2c	2c	2c	19
P24	S12	B3	B3	2g	2g	2g	20
P25	S11	B26	RT	2m	2m	2m	AUTO
P26	B36	B18	MONO	2f	2f	2f	🎤 VF
P27	B37	B10	TRAF	2b	2b	2b	🕒
P28	B38	B2	B2	2k	2k	2k	REC
P29	B33	B25	)	2j	2j	2j	↩
P30	B34	B17	⇄	2h	2h	2h	((#))
P31	B35	B9	(	2a	2a	2a	((b))
P32	ROCK POP CLASSIC S10	B1	B1	–	–	–	S1
P33	DISCO LIVE HALL	–	–	–	–	–	–
P34	S9	–	–	–	–	–	–
P35	–	–	–	–	–	–	♭ #

IC BLOCK DIAGRAM – 2

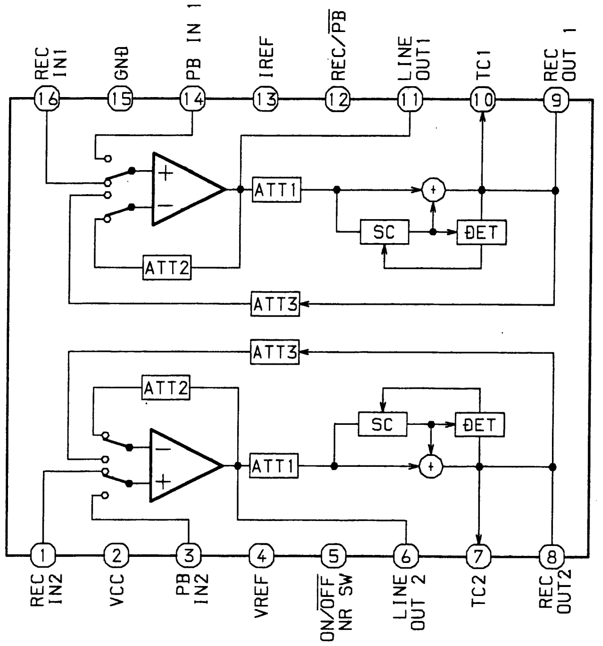
IC, BA3880S


MIXL 1
VCAL 2
VCC 3
ĐEFL 4
ĐETL 5
GNĐ 6
ĐETR 7
ĐEFR 8
CTL 9
VCAR 10
MIXR 11
12 OUTR
13 INR
14 APFR
15 HPFR
16 LPFR
17 BIASC
18 LPFL
19 HPFL
20 APFL
21 INL
22 OUTL
HI
MIĐ
LO
VCA
CTL
HPF
LPF

IC, HA12211NT


30 GNĐ
29 TAPE (L)
28 TAPE (R)
27 AUX (L)
26 AUX (R)
25 IREF
24 REC-SEL
23 BC1
22 AC1
21 HSP
20 A/B
19 PB-OUT (L)
18 PB-OUT (R)
17 B (R) PB-CAL
16 B (R) PB-CAL
L-CH
R-CH
12dB
REC-EQ
ĐELETE
R-CH
B
A
139K
5K
2.7K
2.26K
1.12K
10K
1 VCC
2 REC-OUT (L)
3 REC-OUT (R)
4 REC-RETURN
5 PB-IN B (L)
6 PB-IN B (R)
7 VREF
8 PB-IN A (L)
9 PB-IN A (R)
10 PB-IN (L)
11 PB-IN (R)
12 PB-EQ (L)
13 PB-EQ (R)
14 PB-CAL A (L)
15 PB-CAL A (R)

IC, CXA1553P


REC IN1
GND
PB IN 1
IREF
REC/$\overline{\text{PB}}$
LINE OUT1
TC1
REC OUT 1
16
15
14
13
12
11
10
9
+
−
ATT1
ATT2
ATT3
SC
DET
ATT3
ATT2
SC
DET
−
+
ATT1
1
2
3
4
5
6
7
8
REC IN2
VCC
PB IN2
VREF
ON/$\overline{\text{OFF}}$ NR SW
LINE OUT 2
TC2
REC OUT2

ATT:Attenuator
SC:Side Chain
DET:Detector

IC DESCRIPTION

IC, LC866548V-5E15

Pin No.	Pin Name	I/O	Description
1	RT-A	I	Rotary encoder A input.
2	RT-B	I	Rotary encoder B input.
3	$\overline{\text{LED-MD}}$	O	"MD" LED $\overline{\text{ON}}$/OFF output.
4	$\overline{\text{LED-CD}}$	O	"CD " LED $\overline{\text{ON}}$/OFF output.
5	$\overline{\text{LED-AUX}}$	O	"AUX" LED $\overline{\text{ON}}$/OFF output.
6	$\overline{\text{LED-TUNER}}$	O	"TUNER" LED $\overline{\text{ON}}$/OFF output.
7	$\overline{\text{LED-TAPE}}$	O	"TAPE" LED $\overline{\text{ON}}$/OFF output.
8	HSP	O	Tape deck motor high speed ON/$\overline{\text{OFF}}$ output.
9	$\overline{\text{O-POWER}}$	O	System power supply $\overline{\text{ON}}$/OFF output.
10	O-MUTE	O	System mute ON/$\overline{\text{OFF}}$ output.
11	$\overline{\text{O-CLK-SHIFT}}$	O	U-COM clock shift output.
12	$\overline{\text{RESET}}$	I	Reset input.
13	$\overline{\text{I-HP-MUTE}}$	–	Not connected.
14	I-DISH	I	CD turntable photo sensor A/D converter input.
15	VSS 1	–	GND.
16	CF 1	–	5.76MHz oscillator circuit.
17	CF 2	–	
18	VDD 1	–	Power supply input.
19	$\overline{\text{HOLD}}$	I	Power failure detected input "1" to stop clock and main memory.
20	KEY-1	I	KEY input.(A/D)
21	KEY-2	I	
22	KEY-3	I	
23	I-CD SW	I	CD mechanical switch A/D converter input.
24	I-MIC	I	Microphone input for AUTO VF display.
25	I-TU-SIG/$\overline{\text{MS}}$	I	Tuner signal and deck music sensor signal input.
26	I-SPEANA	I	A/D input for spectrum analyzer display.
27	I-WRQ/RDS-CLK	I	CD WRQ input . TUNER RDS CLOCK input.
28	I-TM-BASE	I	REFERENCE CLOCK input for timer watch.
29	I-$\overline{\text{RMC}}$	I	System remote control signal input.
30~37	G9~G2	O	FL GRID output G2~G9.
38~43	P32~P27	O	FL SEGMENT output P27~P32.
44	G1	O	FL grid output G1.
45	P26	–	FL SEGMENT output P26.
46	VDD3	–	Power supply input.
47	SPEANA-A/P25	O	Spectrum analyzer band switching output /FL segment P25 output.
48	SPEANA-B/P24	O	Spectrum analyzer band switching output /FL segment P24 output.
49	SPEANA-C/P23	O	Spectrum analyzer band switching output /FL segment P23 output.
50	P22/H-DUBB INH	I /O	FL segment P22 output / high dubbing inhibit input to diode.
51	VP	–	Power supply input for FL display.
52	P21/AM-ST	I /O	FL segment P21 output / AM stereo input to diode.
53	P20/LW	I/O	FL segment P20 output / LW mode data input to diode.
54	P19/SW	I/O	FL segment P19 output / SW mode data input to diode.

Pin No.	Pin Name	I/O	Description
55	P18/FM 1	I/O	FL segment P18 output / FM1 (OIRT) data input to diode.
56	P17/RDS	I/O	FL segment P17 output / RDS data input to diode.
57	P16/BBE	I/O	FL segment P16 output / BBE data input to diode.
58	P15/DSP	I/O	FL segment P15 output / DSP data input to diode.
59	P14/DOLBY-SURR	I/O	FL segment P14 output / DOLBY-SURR data input to diode.
60	P13/K-CON	I/O	FL segment P13 output / K-CON data input to diode.
61	P12/DOLBY	I/O	FL segment P12 output / DOLBY data input to diode.
62	P11/WAY	I/O	FL segment P11 output / DECK/WAY MECHA data input to diode.
63	P10/AM-9K/10K	I/O	FL segment P10 output / INITIAL AM 10 kHz step data input to diode.
64	P9/CST 2	I/O	FL segment P9 output / DECK2 cassette detect switch data input.
65	P8/REB	I/O	FL segment P8 output / DECK2 side-B record OK switch data input.
66	P7/CAM 2	I/O	FL segment P7 output / DECK2 CAM switch data input.
67	P6/AUTO 1	I/O	FL segment P6 output / DECK1 AUTO stop signal input.
68	P5/AUTO 2	I/O	FL segment P5 output / DECK2 AUTO stop signal input.
69	P4/CAM 1	I/O	FL segment P4 output / DECK1 CAM switch data input.
70	P3/CST 1	I/O	FL segment P3 output / DECK1 cassette detect switch data input.
71	P2/REA	I/O	FL segment P2 output / DECK2 side A record OK switch data input.
72	VDD 4	–	Power supply input.
73	P1/2092	I/O	FL segment P1 output / SHIFT resistor IC 2092 data input to diode.
74	K-SCAN	O	Switch SCAN timing output.
75	L CK	O	Latch clock output for front shift resistor.
76	PRO-CE	O	PRO LOGIC IC chip enable output.
77	PLL-CE	O	PLL IC chip enable output.
78	MA-STB	O	Latch strobe output for MAIN PWB.
79	DATA	O	DATA output for MAIN, FORNT, PROLOGIC PWB.
80	CLK	O	CLOCK output for MAIN,FORNT, PROLOGIC PWB.
81	DISH-RVS	O	CD turntable reverse rotation output.
82	DISH-FWD	O	CD turntable forward rotation output.
83	TRAY-OPEN	O	CD TRAY OPEN data output.
84	TRAY-CLOSE	O	CD TRAY CLOSE data output.
85	$\overline{\mathrm{LED}}$ ▶▶	O	▶▶ LED $\overline{\mathrm{ON}}$/OFF output.
86	$\overline{\mathrm{LED}}$ ◀◀	O	◀◀ LED $\overline{\mathrm{ON}}$/OFF output.
87	$\overline{\mathrm{LED}}$ ▶	O	▶ LED $\overline{\mathrm{ON}}$/OFF output.
88	$\overline{\mathrm{LED}}$ ◀	O	◀ LED $\overline{\mathrm{ON}}$/OFF output.
89	VSS 2	–	GND.
90	VDD 2	–	Power supply input.
91	$\overline{\mathrm{LED}}$ ■	O	■ LED $\overline{\mathrm{ON}}$/OFF output.
92	$\overline{\mathrm{LED}}$ ❚❚	O	❚❚ LED $\overline{\mathrm{ON}}$/OFF output.
93	$\overline{\mathrm{SOL\ 1}}$	O	DECK 1 Solenoid output.
94	$\overline{\mathrm{SOL\ 2}}$	O	DECK 2 Solenoid output.
95	O-MOTOR	O	DECK MOTOR ON/$\overline{\mathrm{OFF}}$ output.
96	I-IFC/I-SUB Q	I	Tune IF count serial data input /CD SUB Q data input.

Pin No.	Pin Name	I/O	Description
97	I-STEREO/O-SQCLK	I/O	Tuner stereo detected input/CD SQ CLOCK output.
98	I-RDS-DATA/O-DATA	I/O	RDS data input/CD data output.
99	O-CD CE	O	CD CE output.
100	O-CD CLK	O	CD CLOCK output.

IC, LC72131

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>1</td><td>XIN</td><td rowspan="2">I/O</td><td rowspan="2">A crystal oscillator (7.2MHz) is connected between these pins.</td></tr>
<tr><td>22</td><td>XOUT</td></tr>
<tr><td>2</td><td>NC</td><td>–</td><td>Not used.</td></tr>
<tr><td>3</td><td>CE</td><td>I</td><td>To enable the IC. Active "H".</td></tr>
<tr><td>4</td><td>DI</td><td>I</td><td>Digital data input from CPU (LC866548V-5E15) when relevant key is operated.
Active "H".</td></tr>
<tr><td>5</td><td>CLK</td><td>I</td><td>To clock in the data DI.</td></tr>
<tr><td>6</td><td>DO</td><td>O</td><td>Digital data output to CPU (LC866548V-5E15).</td></tr>
<tr><td>7</td><td>TM-BASE</td><td>O</td><td>Outputs a reference clock signal (8Hz) for the clock.</td></tr>
<tr><td>8</td><td>$\overline{\text{MONO}}$ / BEAT</td><td>O</td><td>Outputs "H" when MONO / BEAT is switched.</td></tr>
<tr><td>9</td><td>$\overline{\text{FM}}$ / AM</td><td>O</td><td>Output "L" or "H" as follows:
<table>
<tr><th colspan="2">2 BAND</th><th colspan="3">3 BAND</th><th colspan="3">3 BAND</th></tr>
<tr><td>AM</td><td>FM</td><td>LW</td><td>MW</td><td>FM</td><td>MW</td><td>SW</td><td>FM</td></tr>
<tr><td>H</td><td>L</td><td>H</td><td>H</td><td>L</td><td>H</td><td>L</td><td>L</td></tr>
</table></td></tr>
<tr><td>10</td><td>$\overline{\text{MW}}$</td><td>O</td><td>Outputs "L" or "H" as follows:
<table>
<tr><th colspan="2">2 BAND</th><th colspan="3">3 BAND</th><th colspan="3">3 BAND</th></tr>
<tr><td>AM</td><td>FM</td><td>LW</td><td>MW</td><td>FM</td><td>MW</td><td>SW</td><td>FM</td></tr>
<tr><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>L</td><td>H</td><td>L</td></tr>
</table></td></tr>
<tr><td>11</td><td>IF-MUTE</td><td>O</td><td>To control internal counter.</td></tr>
<tr><td>12</td><td>IFIN</td><td>I</td><td>General purpose counter input.</td></tr>
<tr><td>13</td><td>TUNE</td><td>I</td><td>Receives "L" when station is tuned.</td></tr>
<tr><td>14</td><td>NC</td><td>–</td><td>Not used.</td></tr>
<tr><td>15</td><td>A MIN</td><td>I</td><td>Receives the AM local oscillator frequency signal.</td></tr>
<tr><td>16</td><td>F MIN</td><td>I</td><td>Receives the FM local oscillator frequency signal.</td></tr>
<tr><td>17</td><td>VDD</td><td>–</td><td>Supply power to IC (+5V).</td></tr>
<tr><td>18</td><td>PD</td><td>O</td><td>PLL charge pump output.</td></tr>
<tr><td>19</td><td>AIN</td><td>I</td><td rowspan="2">The MOS transistor for PLL active low pass filter.</td></tr>
<tr><td>20</td><td>AOUT</td><td>O</td></tr>
<tr><td>21</td><td>VSS</td><td>–</td><td>Ground.</td></tr>
</table>

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity : (THD 3%)	4dB ± 6dB [at 87.5 / 98.0 / 108.0MHz]
S/N 50dB Quieting sensitivity :	30dB ± 6dB [at 87.5 / 98.0 / 108.0MHz]
Signal to noise ratio :	Mono : More than 65dB Stereo : More than 64dB [at 98.0MHz]
Distortion :	Mono : Less than 1.3% Stereo : Less than 2.0% [at 98.0MHz]
Auto stop level :	25dB ± 10dB [at 98.0MHz]
Stereo separation :	More than 25dB [at 98.0MHz]
Intermediate frequency :	10.7MHz

<AM(MW) SECTION>

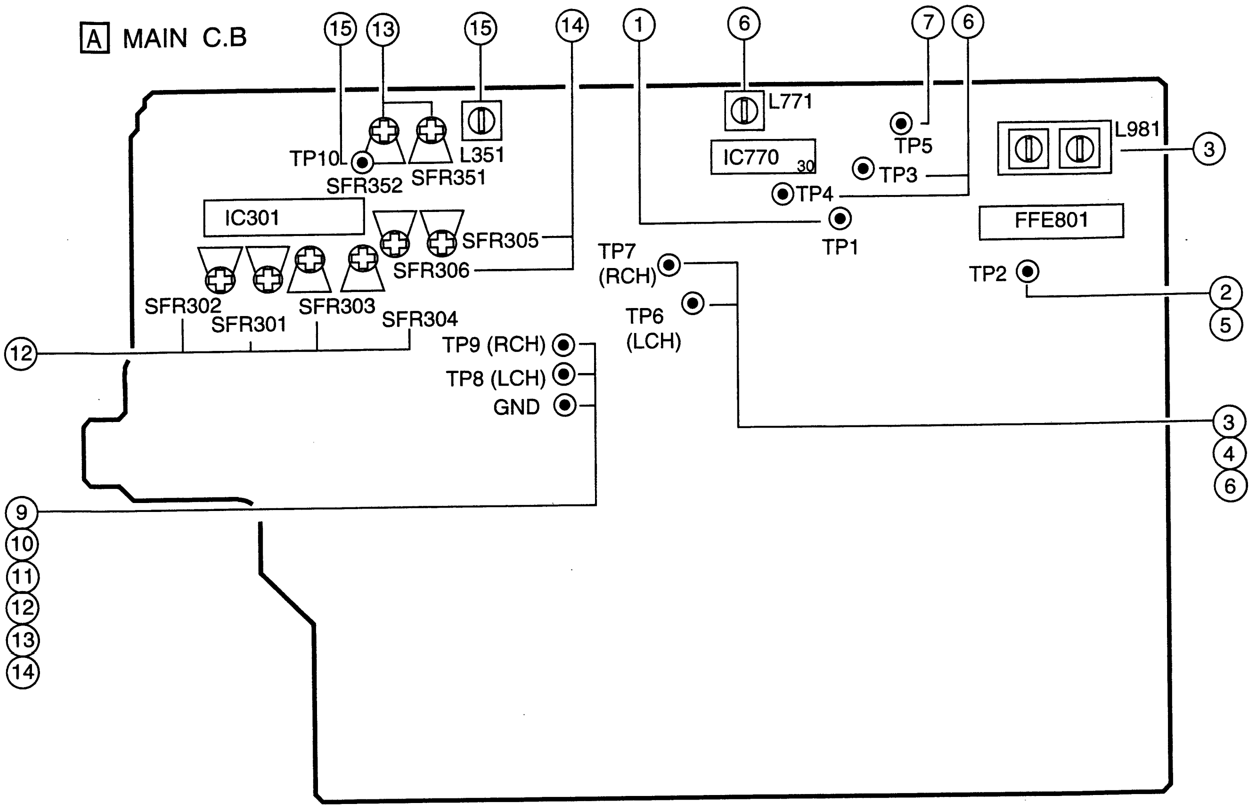
Sensitivity : (S/N 20 dB)	50 ~ 60dB [at 600kHz] 48 ~ 58dB [at 1000kHz] 48 ~ 58dB [at 1400kHz]
Signal to noise ratio :	More than 36dB [at 1000kHz]
Distortion :	Less than 1.5% [at 1000kHz]
Auto stop level :	50dB +10/-15dB [at 1000kHz]
Intermediate frequency :	450kHz

<DECK SECTION>

Tape speed :	3000Hz ± 45Hz
Wow & flutter :	Less than 0.15% (W.R.M.S)
Take-up torque :	30 ~ 55g-cm (FWD, REV)
F.F & REW torque :	75 ~ 180g-cm
Back tension :	2 ~ 7g-cm (FWD, REV)
PB output level :	300mV± 1.5dB (SP OUT 2V)
REC/PB output level :	180mV ± 1dB (SP OUT 2V)
Distortion (REC/PB) :	Less than 2.0% (NORM, CrO2)
Noise level (REC/PB) :	Less than 1.8mV (NORM, SP OUT 2V, DOLBY OFF) Less than 1.1mV (CrO2, SP OUT 2V, DOLBY B,C ON)
Crosstalk :	More than 60dB (1kHz, 0VU)
Channel separation :	More than 30dB (1kHz, 0VU)
Erasing ratio :	More than 30dB (at 125Hz)
Test tape :	TTA-602 (NORMAL) TTA-615 (CrO2)

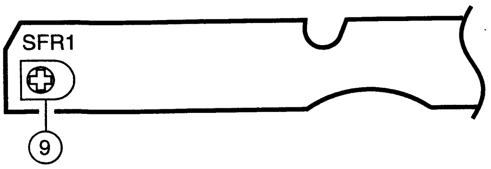
ADJUSTMENT - 1 <TUNER / DECK>

A MAIN C.B

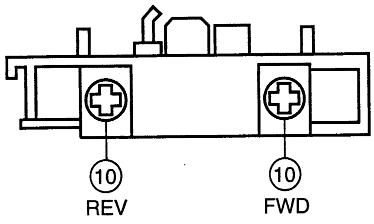


⑮
⑬
⑮
⑭
①
⑥
⑦
⑥
L771
TP5
L981
③
IC770
30
TP3
TP4
TP10
L351
SFR352
SFR351
IC301
FFE801
TP1
SFR305
SFR306
TP7
(RCH)
TP2
②
⑤
SFR302
SFR301
SFR303
SFR304
TP6
(LCH)
⑫
TP9 (RCH)
TP8 (LCH)
GND
③
④
⑥
⑨
⑩
⑪
⑫
⑬
⑭

J DECK C.B



DECK–1 P, DECK–2 R / P / E HEAD



< TUNER SECTION >

1. Clock Frequency Check
   Settings : • Test point : TP1 (CLK IC770 pin30)
   Method : Set to MW 1710kHz, and check that the test point is 2160kHz ± 45Hz.

2. MW VT Check
   Settings : • Test point : TP2 (VT)
   Method : Set to MW 1710kHz and check that the test point is less than 6.0V ± 1.0V.

3. MW Tracking Adjustment
   Settings : • Test point : TP6, TP7
   • Adjustment location : L981
   Method : Set to MW 1000kHz and adjust L981 so that the test point becomes maximum.

4. FM Tracking Check
   Settings : • Test point : TP6, TP7
   Method : Set to FM 98.0MHz, and check that the test point is 2 ± 6dB.

5. FM VT Check
   Settings : • Test point : TP2 (VT)
   Method : Set to FM 87.5MHz, 108.0MHz and check that the test point is more than 1.5V (87.5MHz) and less than 8.5V (108.0MHz).

6. DC Balance / Mono Distortion Adjustment
   Settings : • Test point : TP3, TP4 (DC Balance)
   : TP6, TP7 (Distortion)
   • Adjustment location : L771
   • Input level : 54dB
   Method : Set to FM 98.0MHz and adjust L771 so that the voltage between TP3 and TP4 becomes 0V ± 0.04V.
   Next, check that the distortion is less than 1.3%.

7. Auto Stop Level Check
   Settings : • Test point : TP5
   • Input level : 18dB
   Method : Set to FM 98.0MHz and check voltage low (about 0.1V). After that voltage high (about 7.0V) by 2dB down.

8. Auto Stop Level Check
   MW
   • Input level : Variable
   Method : Check auto stop at MW 1000kHz and the level is 50 +10/-15dB.

   FM
   • Input level : Variable
   Method : Check auto stop at FM 98.0MHz and the level is 25 dB ± 10 dB.

< DECK SECTION >

9. Tape Speed Adjustment
   Settings : • Test tape : TTA–100
   • Test point : TP8, TP9
   • Adjustment location : SFR1
   Method : Play back the test tape and adjust SFR1 so that the frequency counter reads 3000Hz ± 5Hz.

8. Head Azimuth Adjustment
   Settings : • Test tape : TTA–300
   • Test point : TP8, TP9
   • Adjustment location : Head azimuth adjustment screw
   Method : Play back the 10kHz signal of the test tape and adjust screw so that the output becomes maximum.

11. PB Frequency Response Check (DECK 1, DECK 2)
   Settings : • Test tape : TTA–300
   • Test point : TP8, TP9
   Method : Play back the 315Hz and 10kHz signals of the test tape and check that the output ratio of the 10kHz signal with respect to that of the 315Hz signal is ±2dB.

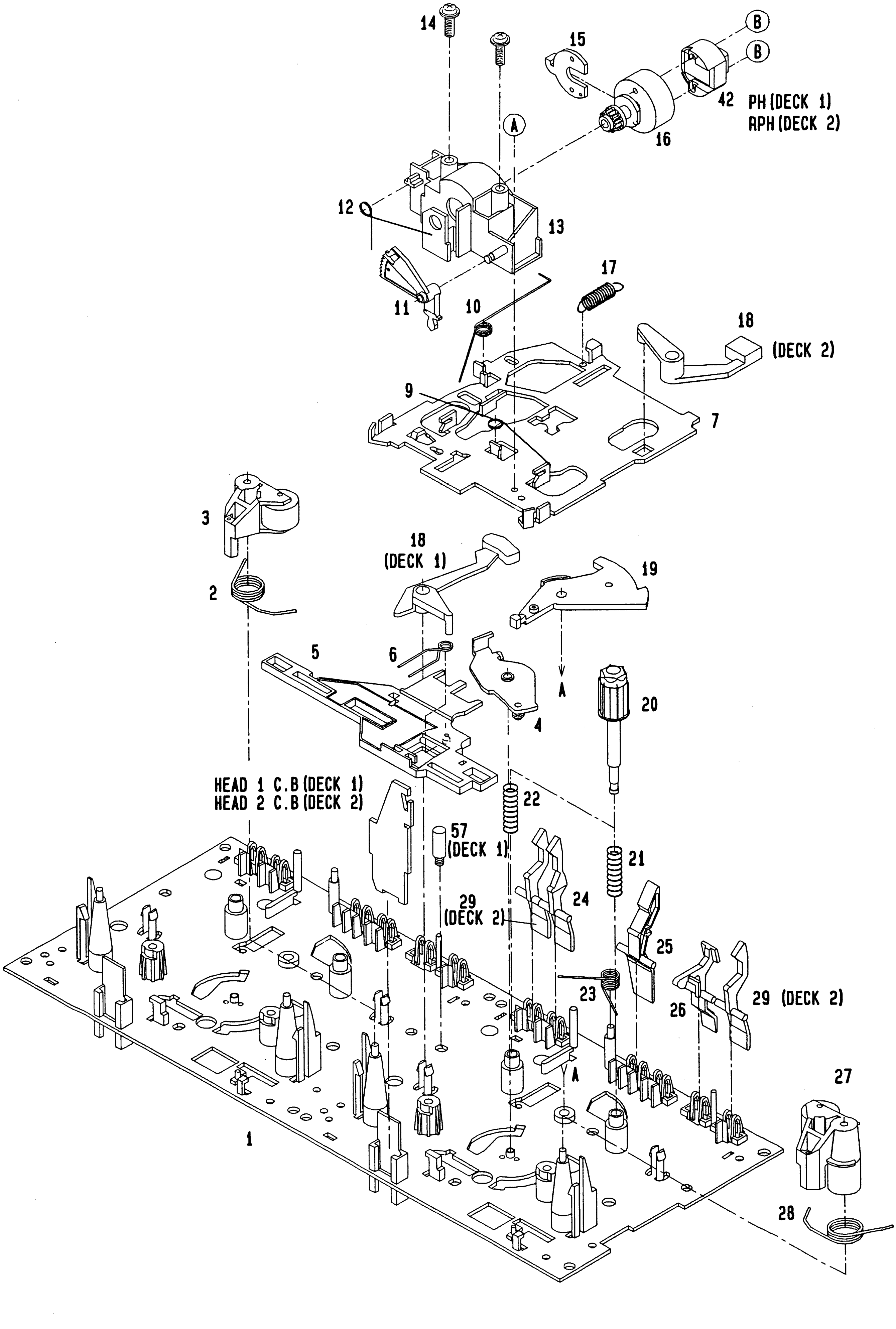
12. PB Sensitivity Adjustment (DECK 1, DECK 2)
   Settings : • Test tape : TTA–200
   • Test point : TP8, TP9
   • Adjustment location : SFR301 (DECK 1, Lch)
   SFR302 (DECK 1, Rch)
   SFR303 (DECK 2, Lch)
   SFR304 (DECK 2, Rch)
   Method : Play back the test tape and adjust SFRs so that the output level of the test point becomes 245mV.

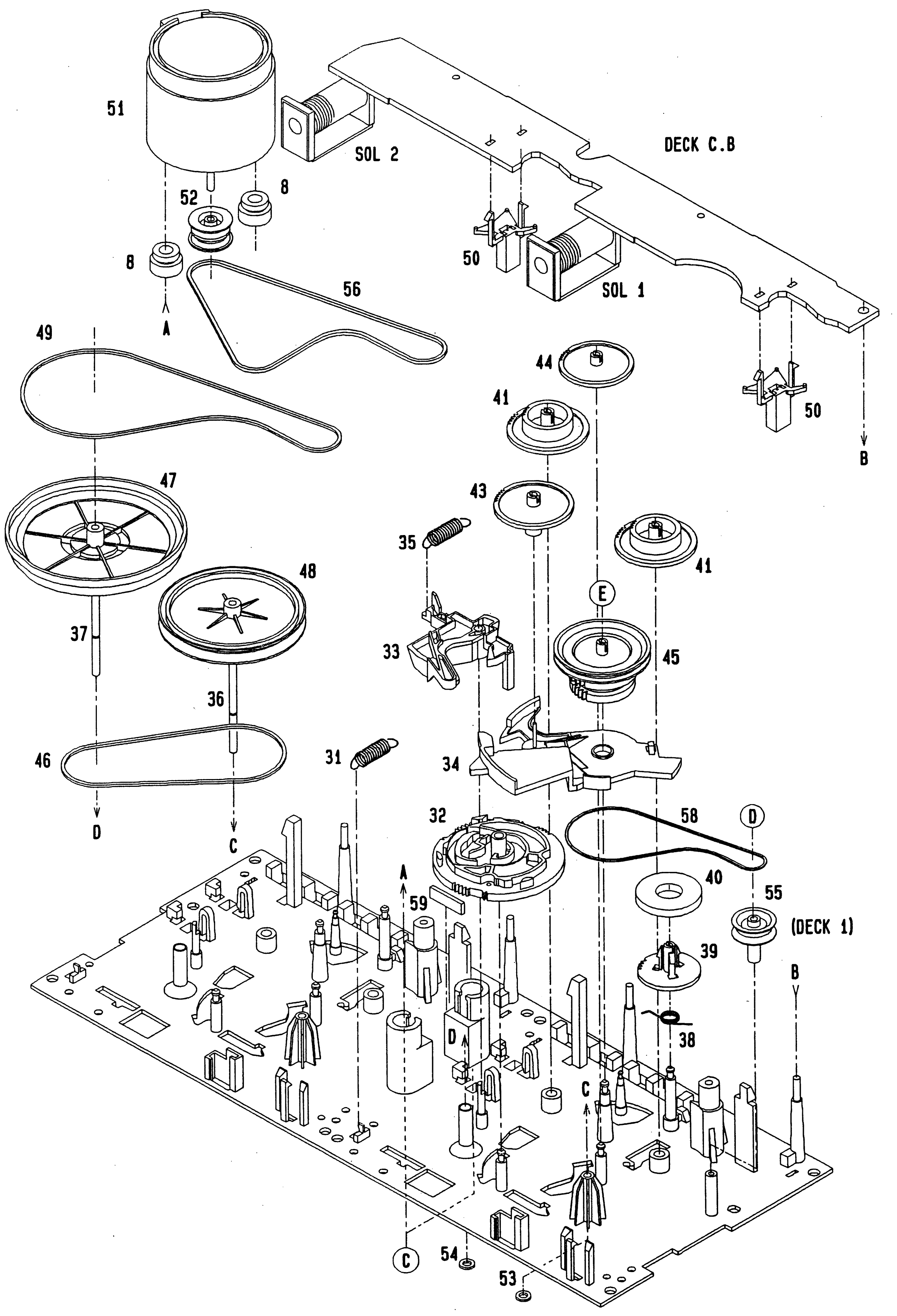
13. REC/PB Frequency Response Adjustment
   Settings : • Test tape : TTA–602
   • Test point : TP8, TP9
   • Input signal : 1kHz / 10kHz (LINE IN)
   • Adjustment location : SFR351 (Lch)
   SFR352 (Rch)
   Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP8, TP9 becomes 17mV. Record and play back the 1kHz and 10kHz signals and adjust SFRs so that the output of the 10kHz signals becomes 0dB ± 0.5dB with respect to that of the 1kHz signal.

14. REC/PB Sensitivity Check
   Settings : • Test tape : TTA–602
   • Test point : TP8, TP9
   • Input signal : 1kHz (LINE IN)
   Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP8, TP9 becomes 17mV. Record and play back the 1kHz signals and check that the output is 17mV ± 0.5dB.

15. Bias OSC Frequency Adjustment
   Settings : • Test tape : TTA–615
   • Test point : TP10
   • Adjustment location : L351
   Method : Set to the REC mode. Adjust L351 so that the frequency at the test point is 85kHz ± 1kHz.

TAPE MECHANISM EXPLODED VIEW 1/1


14
15
B
B
A
42
PH (DECK 1)
RPH (DECK 2)
16
12
13
17
11
10
18
(DECK 2)
9
7
3
18
(DECK 1)
19
2
5
6
4
A
20
HEAD 1 C.B (DECK 1)
HEAD 2 C.B (DECK 2)
22
57
(DECK 1)
21
24
29
(DECK 2)
25
23
26
29 (DECK 2)
A
27
1
28

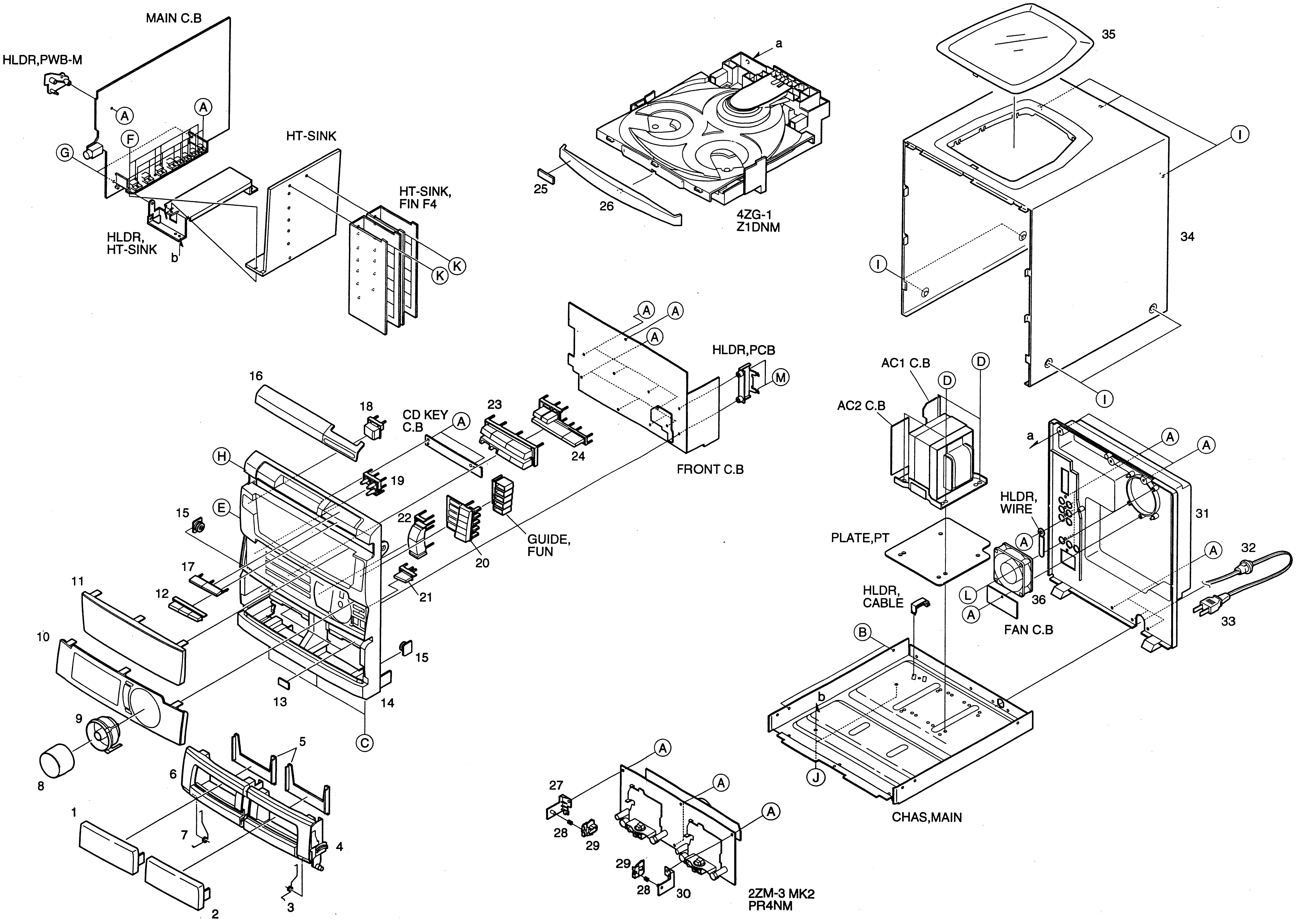


TAPE MECHANISM PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM3-301-519		CHAS ASSY,M2
2	82-ZM1-258-110		SPR-T,PINCH L
3	82-ZM1-341-110		LVR ASSY,PINCH L2
4	82-ZM1-333-010		PLATE,LINK 2
5	82-ZM1-266-11K		LVR,DIR
6	82-ZM1-214-010		SPR-T,DIR
7	82-ZM1-206-81K		CHAS,HEAD
8	82-ZM3-307-019		CUSH-G,DIA3.7-8-3.2
9	82-ZM1-269-219		SPR-T,BRG
10	82-ZM1-219-119		SPR-T,LINK
11	82-ZM1-210-119		GEAR,H T
12	82-ZM1-213-019		SPR-T,HEAD
13	82-ZM1-207-619		GUIDE,TAPE
14	86-ZM4-206-010		S-SCREW,AZIMUTH
15	82-ZM1-314-119		PLATE,HEAD
16	82-ZM1-208-119		HLDR,HEAD
17	82-ZM1-218-019		SPR-E,HB
18	82-ZM1-263-110		LVR,EJECT L (DECK 1)
18	82-ZM1-264-010		LVR,EJECT R (DECK 2)
19	82-ZM1-222-21K		LVR,PLAY
20	82-ZM1-217-319		REEL TABLE
21	82-ZM1-244-510		SPR-C,BT
22	82-ZM1-285-310		SPR-C,BT L
23	82-ZM1-257-019		SPR-T,CAS
24	82-ZM1-241-319		LVR,MC
25	82-ZM1-242-019		LVR,CAS
26	82-ZM1-243-019		LVR,STOP
27	82-ZM1-344-110		LVR ASSY,PINCH R2
28	82-ZM1-259-110		SPR-T,PINCH R
29	82-ZM1-240-11K		LVR,REC (DECK 2)
31	82-ZM1-255-319		SPR-E,LVR DIR
32	82-ZM3-305-01K		GEAR,CAM M2
33	82-ZM1-227-21K		LVR,TRIG
34	82-ZM3-306-11K		LVR,FR M2
35	82-ZM1-265-119		SPR-E,TRIG
36	82-ZM1-236-019		CAPSTAN N 2-41.5
37	82-ZM1-239-019		CAPSTAN N 2.2-41.7
38	82-ZM1-322-019		SPR-T,FR60
39	82-ZM1-220-219		GEAR,IDLER
40	82-ZM3-616-019		RING MAGNET 4
41	82-ZM1-216-31K		GEAR,REEL
42	87-A90-319-010		HEAD,PH HADKH2 FPC
42	87-A90-320-010		HEAD,RPH HADKH5 FPC
43	82-ZM1-225-21K		GEAR,FR
44	82-ZM1-226-019		GEAR,REW
45	82-ZM3-333-310		SLIP DISK ASSY 2
46	82-ZM1-338-010		BELT FR4
47	82-ZM1-349-110		FLY-WHL,R W(DECK 2)
47	82-ZM3-338-110		FLY-WHL,R3 W(DECK 1)
48	82-ZM1-348-010		FLY-WHL,L W(DECK 2)
48	82-ZM1-348-010		FLY-WHL,L W(DECK 1)
49	82-ZM3-329-210		BELT,SBU R2
50	82-ZM1-245-210		HLDR,IC
51	87-045-347-019		MOT,SHU2L 70(M1)
52	82-ZM3-221-010		PULLEY,MOT 2M
53	82-ZM1-288-019		SH,1.63-3.2-0.5 SLT
54	80-ZM6-243-019		SH,1.75-3.6-0.5 SLT
55	82-ZM3-335-210		PULLEY,COUPLER M3(DECK 1)
56	82-ZM3-337-010		BELT,SBU MOT 2
57	82-ZM3-339-010		SHAFT,COUPLER N3(DECK 1)
58	86-ZM1-206-010		BELT,MAIN L
59	82-ZM3-340-010		SH,BELT D2
A	85-ZM3-202-010		S-SCREW,TG
B	80-ZM6-207-019		V+1.6-7
C	82-ZM3-318-019		S-SCRW MOTOR M2
D	87-B10-043-010		W-P,0.99-4-0.25 SLT
E	82-ZM3-334-010		PW,2.16-6-0.4

MECHANICAL EXPLODED VIEW 1/1



MAIN C.B
HLDR,PWB-M
A
A
G
F
HT-SINK
HT-SINK,
FIN F4
HLDR,
HT-SINK
b
K
K
a
4ZG-1
Z1DNM
25
26
35
I
34
I
I
A
A
A
HLDR,PCB
M
FRONT C.B
16
18
CD KEY
C.B
A
23
24
H
19
E
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GUIDE,
FUN
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17
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C
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8
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6
1
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3
AC1 C.B
D
D
AC2 C.B
a
A
A
HLDR,
WIRE
31
PLATE,PT
A
A
32
L
36
A
HLDR,
CABLE
33
FAN C.B
B
b
J
CHAS,MAIN
A
27
A
28
29
A
29
28
30
2ZM-3 MK2
PR4NM

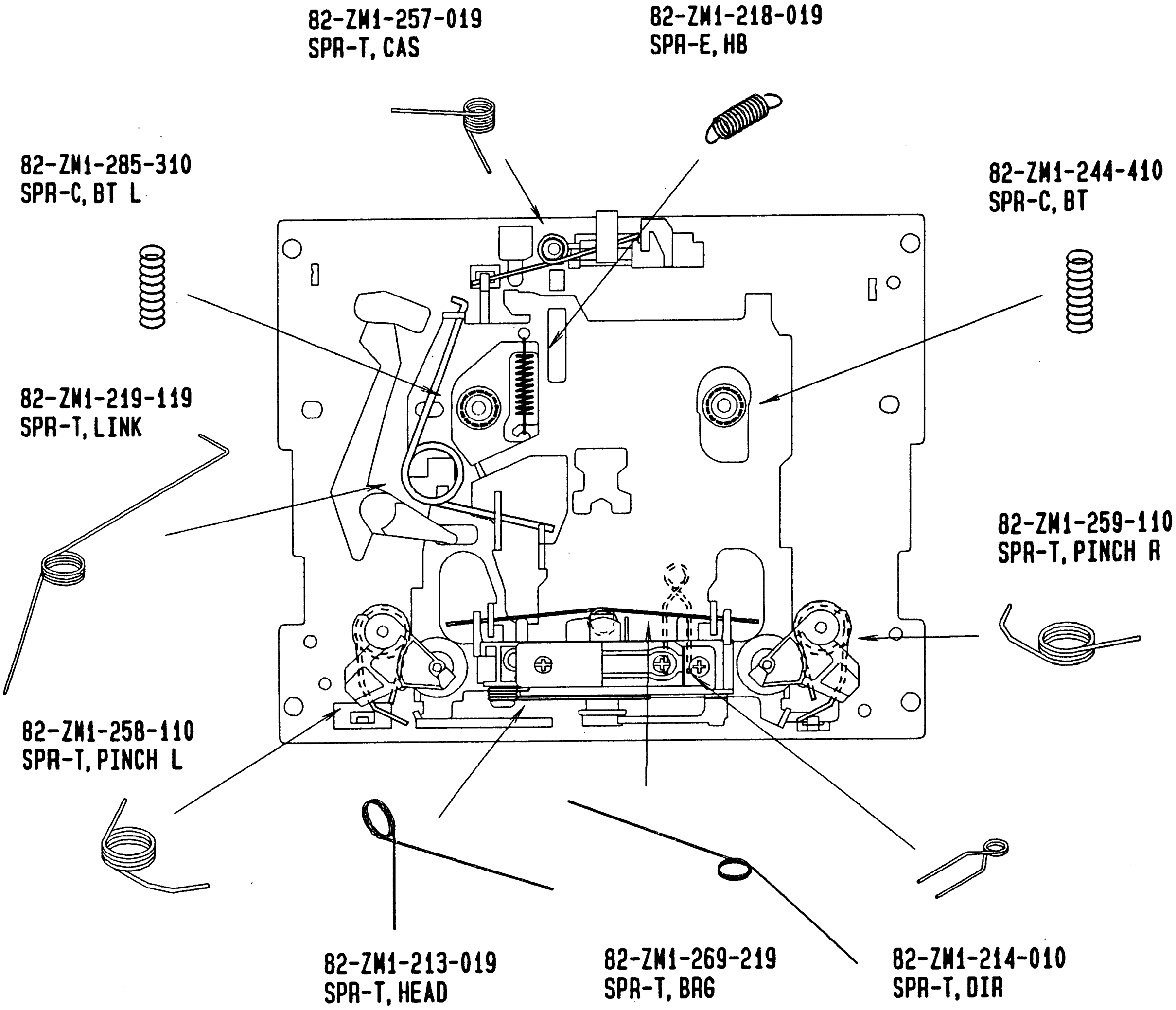
MECHANICAL PARTS LIST 1 / 1

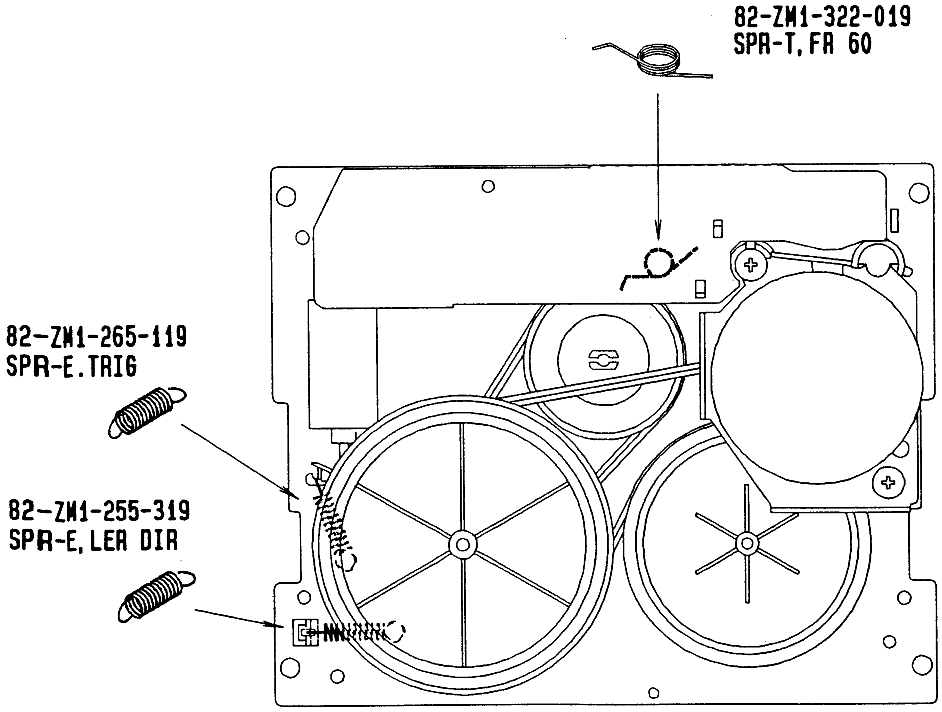
If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-NF5-010-010		WINDOW,CASS 1
2	87-NF5-011-010		WINDOW,CASS 2
3	82-NF5-219-010		SPR-T,EJECT 2(SIN)
4	87-NF5-004-010		BOX,CASS 2H
5	86-NF6-061-010		REFLECTOR,CASS
6	87-NF5-003-010		BOX,CASS 1H
7	82-NF5-218-010		SPR-T,EJECT 1(SIN)
8	87-NF5-023-010		KNOB,RTRY VOL
9	87-NF5-007-010		RING,VOL
10	87-NF5-002-010		PANEL,FR H
11	87-NF5-009-010		WINDOW,DISP H
12	87-NF5-016-010		KEY,DISC
13	81-532-080-010		LBL,CASS-COMPT
14	87-NF5-001-010		CABI,FR H<70LH>
14	87-NF5-042-010		CABI,FR H S74<74LH>
14	87-NF5-050-010		CABI,FR U A71<71U>
15	87-063-165-010		OIL-DMPR,150
16	87-NF5-008-010		WINDOW,CD
17	87-NF5-015-010		KEY,OPEN
18	87-NF5-017-010		KEY,POWER
19	87-NF5-019-010		KEY,DEMO
20	87-NF5-018-010		KEY,FUN
21	87-NF5-020-010		KEY,VF
22	87-NF5-022-010		KEY,GEQ
23	87-NF5-024-010		KEY,ASSY OPE
24	87-NF5-021-010		KEY,EDIT
25	82-NE6-067-010		BADGE,AIWA 30N
26	87-NF5-005-010		PANEL,TRAY H
27	87-NF4-216-010		HLDR,LOCK 1
28	82-NF5-228-010		SPR-C,LOCK

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
29	82-NF5-229-010		PLATE,LOCK
30	87-NF4-217-010		HLDR,LOCK 2
31	87-NF5-035-010		CABI,REAR LHSTNM<74LH,70LH>
31	87-NF5-040-010		CABI,REAR USTNM A71<71U>
32	87-085-185-010		BUSHING,AC CORD(E) CM-22B<74LH,70LH>
32	87-085-189-010		BUSHING,AC CORD(U) CM-22C<71U>
⚠ 33	87-050-079-010		AC CORD ASSY,E BLK<74LH,70LH>
⚠ 33	87-050-053-010		AC CORD ASSY,U-2<71U>
34	86-NFT-005-110		CABI,STEEL TS
35	86-NF6-007-010		WINDOW,TOP
36	87-A90-463-010		FAN,2408NL<74LH,70LH>
A	87-067-703-010		BVT2+3-10 W/O SLOT
B	87-591-094-410		QIT+3-6
C	87-067-688-010		BVTT+3-6
D	87-067-975-010		S-SCREW,IT+4-8 SWCH12A
E	87-721-096-410		QT2+3-10 W/O SLOT
F	87-067-758-010		BVT2+3-12 W/O SLOT
G	87-067-633-010		BVT2+3-8 W/O SLOT W/ CONVEX
H	87-721-097-410		QT2+3-12 W/O SLOT
I	87-067-641-010		UTT2+3-8 W/O SLOT BLK
J	87-067-584-010		BVT2+3-6 W/O SLOT
K	87-067-690-010		BVIT3B+3-12 BLK
L	87-571-104-410		VIT+3-30<74LH,70LH>
M	87-067-581-010		BVT2+3-15 W/O SLOT

SPRING APPLICATION POSITION


82-ZM1-257-019
SPR-T, CAS
82-ZM1-218-019
SPR-E, HB
82-ZM1-285-310
SPR-C, BT L
82-ZM1-244-410
SPR-C, BT
82-ZM1-219-119
SPR-T, LINK
82-ZM1-259-110
SPR-T, PINCH R
82-ZM1-258-110
SPR-T, PINCH L
82-ZM1-213-019
SPR-T, HEAD
82-ZM1-269-219
SPR-T, BRG
82-ZM1-214-010
SPR-T, DIR


82-ZM1-322-019
SPR-T, FR 60
82-ZM1-265-119
SPR-E.TRIG
82-ZM1-255-319
SPR-E, LER DIR

ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-NF5-902-010		IB,LH(ESP)M<74LH,70LH>
1	87-NF5-911-010		IB,U(ESF)M-71<71U>
2	87-NB7-651-010		RC UNIT,RC-7AS08
3	87-A90-064-010		FEEDER-ANT,FM (SHS)
⚠ 4	87-A90-312-010		PLUG,CONVERSION WTN-1157R1<74LH,70LH>
5	87-006-225-010		ANT,LOOP ANT NC2

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
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アイワ株式会社
AIWA CO.,LTD.

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Tokyo Japan

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Printed in Singapore

ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-NF5-902-010		IB,LH(ESP)M<74LH,70LH>
1	87-NF5-911-010		IB,U(ESF)M-71<71U>
2	87-NB7-651-010		RC UNIT,RC-7AS08
3	87-A90-064-010		FEEDER-ANT,FM (SHS)
⚠ 4	87-A90-312-010		PLUG,CONVERSION WTN-1157R1<74LH,70LH>
5	87-006-225-010		ANT,LOOP ANT NC2

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
G— —	
G— —	
G— —	

アイワ株式会社
AIWA CO.,LTD.

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Tokyo Japan

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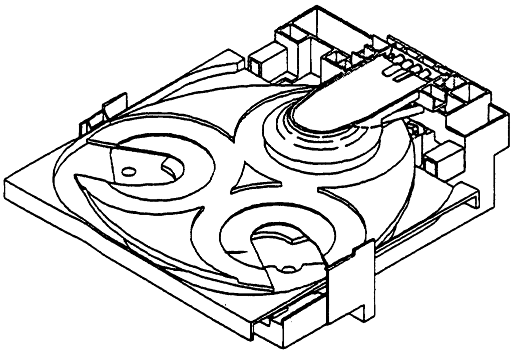
aiwa

aiwa SERVICE

V18295

4ZG-1Z



CD MECHANISM

• BASIC CD MECHANISM: KSM-2 131 BAM / 3ZG-2C7N •TYPE: English,Japanese

BASIC NAME	DERIVATION NAME							
4ZG-1Z	1D	2D	1MD	–		–	–	–

S/M Code No. 09-973-187-50T (Service Manual)
S/M Code No. 09-984-270-60T (Correction)

SERVICE MANUAL

安全に修理(補修)をするために

修理の前に「安全に修理(補修)をするために」をよくお読みの上、正しく修理を行ってください。このサービスマニュアルでは、お客様が製品を安全に正しくお使いいただき、お客様や他の人々への危害や財産への損害を未然に防止するために、修理する場合必ず下記の項目をお守りください。

⚠警告

警告に示された次の内容を必ずお守りください。

☞もし守られないと、火災や感電、けがなどの重度の損害を負う原因となります。

1.⚠安全規格部品注意文

・製品の安全性を維持する為の重要部品で、安全上特別な規格で作られています。

このマークの部品を交換する時は必ず指定の部品を使用してください。

2.指定部品を使用すること。

セットの部品は難燃性や耐電圧など安全上の特性を持ったものとなっています。従って交換部品は、使用されていたものと同じ特性の部品を使用すること。特に回路図、部品表に⚠印で指定されている安全上重要な部品は必ず指定のものをご使用ください。

3.電源コードを含むＡＣ1次側のリード線の被覆を傷つけたり、溶かしたりしないこと。

4.感電に注意すること。

内部には高電圧の部分がありますので通電時の取り扱いに際しては注意してください。

5.次の各項目は修理前と必ず同じであること。

1）ワイヤーの半田付け状態（特にＡＣ1次側の空間距離）

2）ワイヤーの引き回しおよび束線状態等

3）ワイヤーの種類

4）各種絶縁物の取付状態

7.部品の取り付けや配線の引き回しはもとどおりにすること。

安全上、チューブやテープなどの絶縁材料を使用したり、プリント基板から浮かしてとりつけた部品があります。また、内部配線は引き回しやクランパーによって発熱部品や高圧部品に接近しないよう配慮されていますので、これらは必ずもとどおりにすること。

⚠注意

この表示を無視して、誤った取り扱いをすると、人が傷害を負ったり物的損害が発生する可能性があります。

1.注意事項を守ること。

サービスの時特に注意を要する箇所につきましては、キャビネット、シャーシ、部品などにラベルや捺印で注意事項を表示しています。これらの注意書きおよび取扱説明書等の注意事項を必ず守ること。

2.スペック銘板・注意ラベル・ヒューズラベル等の表示文字を汚して読みにくくならないこと。

3.基板パターンの裏付け部品の修理等を行う場合、パターンや部品にボンドを塗布してプリント基板にしっかり固定すること。

4.サービス後は安全点検すること。

サービスのために取り外したネジ、部品、配線がもとどおりになっているか、サービスした個所の周辺を劣化させてしまったところがないかなどを点検すること。（ワイヤーの半田付け、引き回し、束線、種類、空間距離）

5.修理（補修）時に、レーザー出力部に接近しないでください。やむなく接近する場合は、目を閉じてください。レーザービームに接近することが必要になった場合、光学ピックアップブロックの対物レンズの表面から30cm以上離れていることを確認してください。

ギヤ、メインカムの位相の合わせ方

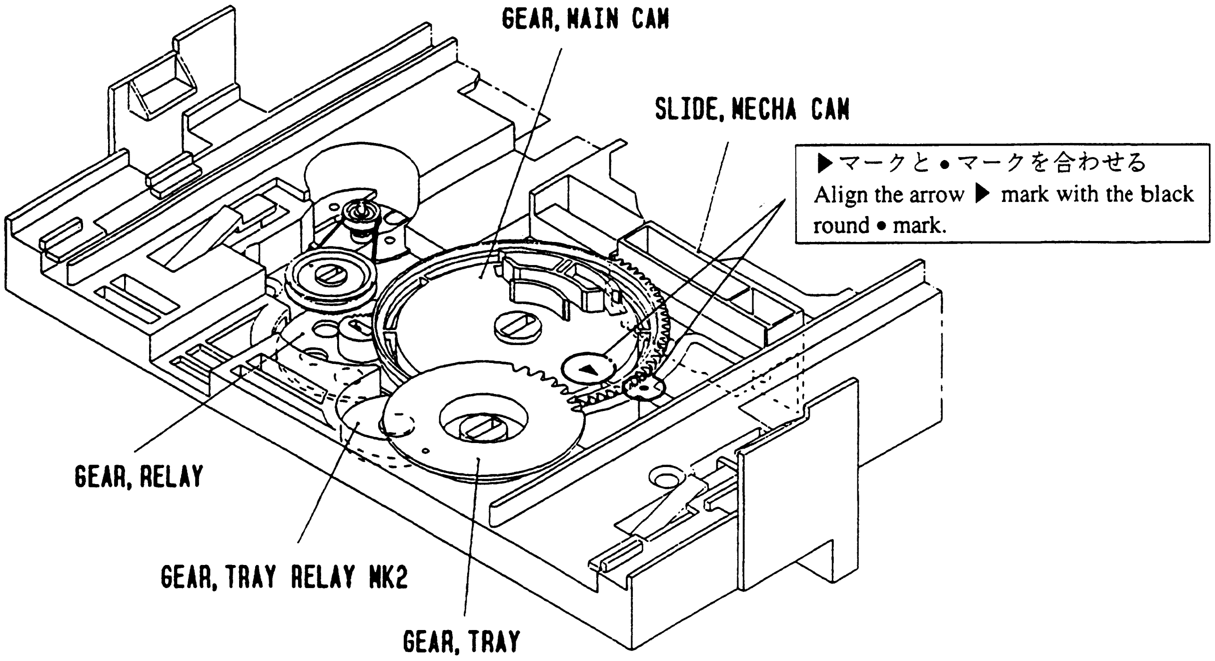
1) CHAS, MECHのツメを下側に押し、TRAYを外す。
2) 下図の様にGEAR, MAIN CAMの矢印とCHAS, MECHAの点印を合わせる。
3) SLIDE, MECH CAMが右側の位置にある事を確認し、TRAYをゆっくり挿し込んで下さい。

注意: GEAR, MAIN CAMの位相がズレている場合、チャッキング及びトレーが誤動作を起こします。

How to Adjust the Rotating Phase of the Gear, Main Cam

1) Push down the hooking catch of the CHAS. MECH, and remove the TRAY.
2) Align the arrow mark of the Gear, Main Cam with the black round mark of the CHAS, MECHA as shown below.
3) Confirm that the Slide, Mech Cam is located in the right position, then insert the TRAY gently.

Caution: If the rotating phase of the Gear, Main Cam is incorrectly adjusted, the chucking operation and tray movement will have malfunction.


GEAR, MAIN CAM
SLIDE, MECHA CAM
▶マークと●マークを合わせる
Align the arrow ▶ mark with the black round ● mark.
GEAR, RELAY
GEAR, TRAY RELAY MK2
GEAR, TRAY

光学ブロック (KSS-213B) 交換時の注意

光学系ブロック内のレーザーダイオードは、衣服や人体に帯電した静電荷等で電位差を生じることにより、静電破壊することがあります。人体アース、作業台のアースをとり、衣服が触れぬよう注意して下さい。

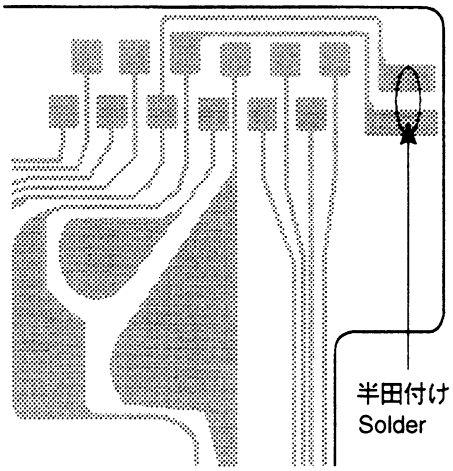
1) コネクターを接続後、右図に示すハンダ付けを取り除いて下さい。

Precaution to replace Optical block (KSS-213B)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in the right figure.

PICK-UP Assy P.C.B


半田付け
Solder

ELECTRICAL MAIN PARTS LIST

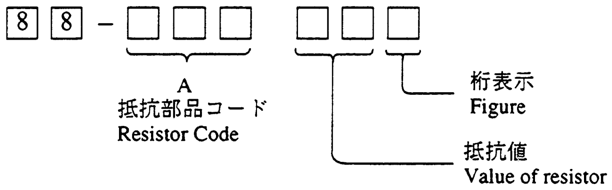
> DESCRIPTIONで判断できない物は“REFERENCE NAME LIST”を参照してください。
> If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
IC			
	87-A20-446-010	1E	C-IC,LA9241ML
	87-A20-459-010	2A	C-IC,LC78622ED
	87-A20-445-010	1F	IC,BA5936
TRANSISTOR			
	87-A30-066-080	0E	TR,2SA1175FE
	87-A30-076-080	0E	C-TR,2SC3052F
	87-A30-047-080	0E	TR,CSD655E
	87-026-609-080	0E	TR,KTA1266GR
	87-A30-073-080	0E	C-TR,RT1N 141C
	87-A30-039-040	0E	C-TR,2SD1383K<1MD>
DIODE		—	
	87-002-564-080	0E	DIODE,1SS133-RA
3CD C.B			
	84-ZG1-244-210	1A	CABI,OPTICAL
C11	87-012-393-080	0E	C-CAP,S 0.22-16 K W5R CM/CB
C12	87-012-157-080	0E	C-CAP,S 330P-50 J CH GRM
C13	87-016-369-080	0E	C-CAP,S 0.033-25 K B
C14	87-A10-201-080	0E	C-CAP,S 0.33-16 K B
C15	87-010-590-080	0E	C-CAP,S 0.015-16 K R
C16	87-016-369-080	0E	C-CAP,S 0.033-25 K B
C17	87-010-181-080	0E	C-CAP,S 1800P-50 K B
C18	87-016-369-080	0E	C-CAP,S 0.033-25 K B
C19	87-010-198-080	0E	C-CAP,S 0.022-25 K B
C20	87-010-178-080	0E	C-CAP,S 1000P-50 K B
C21	87-012-393-080	0E	C-CAP,S 0.22-16 K W5R CM/CB
C22	87-016-083-080	0E	C-CAP,S 0.15-16 K R
C23	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C24	87-010-186-080	0E	C-CAP,S 4700P-50 K B
C25	87-010-400-040	0E	CAP,E 0.47-50 SME
C26	87-010-322-080	0E	C-CAP,S 100P-50 J CH
C27	87-010-382-040	0E	CAP,E 22-25 SME
C28	87-010-403-040	0E	CAP,E 3.3-50 SME
C29	87-010-184-080	0E	C-CAP,S 3300P-50 K B
C30	87-010-146-080	0E	C-CAP,S 2P-50 C CH GRM
C31	87-010-186-080	0E	C-CAP,S 4700P-50 K B
C32	87-010-152-080	0E	C-CAP,S 8P
C33	87-016-081-080	0E	C-CAP,S 0.1-16 K R
C35	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C37	87-010-405-080	0E	CAP,E 10-50 M SME
C38	87-010-263-080	0E	CAP,E 100-10 SME
C39	87-016-369-080	0E	C-CAP,S 0.033-25 K B
C40	87-010-401-080	0E	CAP,E 1-50 M SME
C41	87-A10-201-080	0E	C-CAP,S 0.33-16 K B
C42	87-010-263-080	0E	CAP,E 100-10 SME
C43	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C44	87-010-263-080	0E	CAP,E 100-10 SME
C46	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C47	87-010-260-080	0E	CAP,E 47-25 SME
C48	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C49	87-010-404-080	0E	CAP,E 4.7-50 M SME
C50	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C51	87-010-263-040	0E	CAP,E 100-10 M SME
C101	87-016-081-080	0E	C-CAP,S 0.1-16 K R
C102	87-016-081-080	0E	C-CAP,S 0.1-16 K R
C103	87-010-321-080	0E	C-CAP,S 82P-50 J CH
C104	87-012-154-080	0E	C-CAP,S 150P-50 J CH GRM
C105	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C109	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C111	87-010-312-080	0E	C-CAP,S 15P
C112	87-010-154-080	0E	C-CAP,S 10P-50 D CH
C113	87-010-322-080	0E	C-CAP,S 100P-50 J CH
C115	87-010-404-080	0E	CAP,E 4.7-50 M SME
C116	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C117	87-010-263-040	0E	CAP,E 100-10 M SME
C118	87-010-178-080	0E	C-CAP,S 1000P-50 K B
C119	87-010-154-080	0E	C-CAP,S 10P-50 D CH
C121	87-010-405-080	0E	CAP,E 10-50 M SME
C122	87-010-405-080	0E	CAP,E 10-50 M SME
C123	87-012-157-080	0E	C-CAP,S 330P-50 J CH GRM
C124	87-012-157-080	0E	C-CAP,S 330P-50 J CH GRM
C131	87-010-382-080	0E	CAP,E 22-25 M SME
C191	87-010-263-040	0E	CAP,E 100-10 M SME
C301	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C302	87-010-382-080	0E	CAP,E 22-25 M SME
C501	87-010-381-080	0E	CAP,E 330-16 SME
C502	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C504	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C505	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C506	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C507	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C509	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C510	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C603	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C610	87-010-405-080	0E	CAP,E 10-50 M SME
C611	87-010-405-080	0E	CAP,E 10-50 M SME
C701	87-010-405-080	0E	CAP,E 10-50 M SME
C705	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C706	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C711	87-010-322-080	0E	C-CAP,S 100P-50 J CH
C712	87-010-322-080	0E	C-CAP,S 100P-50 J CH
C713	87-010-322-080	0E	C-CAP,S 100P-50 J CH
C721	87-010-322-080	0E	C-CAP,S 100P-50 J CH
C901	87-010-260-080	0E	CAP,E 47-25 SME
C902	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
CON3	84-ZG1-648-010	1A	CONN ASSY,6P<1MD,1D>
FC1	85-NFT-611-110	1A	FF-CABLE 16P-1.0
FC4	84-ZG1-614-210	1A	F-CABLE,5P 1.25 210MM
FC5	84-ZG1-630-010	0E	CABLE FFC 6P-1.25<2D>
L11	87-005-602-080	0E	COIL,10UH J LAV35
L101	87-005-614-080	0E	COIL,100UH
L102	87-005-602-080	0E	COIL,10UH J LAV35
LED901	87-A40-123-010	0E	LED,SLZ-8128A-01-B
M601	87-045-305-010	1D	MOT,RF-500TB
SW701	87-036-109-010	0E	SW,MICRO SPPB61
SW702	87-036-109-010	0E	SW,MICRO SPPB61
X101	87-A70-046-010	--	VIB,XTAL 16.934MHZ
LED C.B			
LED701	87-A40-316-080	0E	LED,SLR-56PCT31 GRN
LED702	87-A40-268-080	0E	LED,SLH-56DCT31 ORN
LED703	87-A40-268-080	0E	LED,SLH-56DCT31 ORN
LED704	87-A40-316-080	0E	LED,SLR-56PCT31 GRN
T-T C.B			
C401	87-018-214-080	0E	CAP,TC U 0.1-50 Z F SA
M401	87-045-364-010	1D	MOT,BCH3B
PS401	87-026-573-010	1B	SNSR,PHOTO GP1S53
MOTOR C.B<1MD,1D>			
M2	9X-262-513-210	2M	SLED MOTOR ASSY<1MD,1D>
PIN3	91-564-722-110	1C	CONNECTOR 6P<1MD,1D>
SW1	91-572-085-110	1B	LEAF SW<1MD,1D>

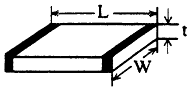
REF. NO	PART NO.	カンリ NO.	DESCRIPTION
DRIVE C.B<2D>			
M1	87-045-358-010	1F	MOT,RF-310TA 43<2D>
M2	87-045-356-010	1F	MOT,RF-310TA 30<2D>
SW1	87-A90-042-010	0E	SW,LEAF MSW-17310MVPO<2D>

○ チップ抵抗部品コード／CHIP RESISTOR PART CODE

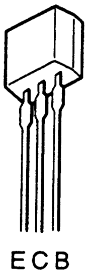
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding


8 8 - □□□ □□□
A
抵抗部品コード
Resistor Code
桁表示
Figure
抵抗値
Value of resistor

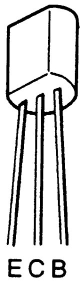
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード：A Resistor Code: A
				外形／Form	L	W	t	
1／16W	1608	±5%	CJ		1.6	0.8	0.45	108
1／10W	2125	±5%	CJ		2	1.25	0.45	118
1／8W	3216	±5%	CJ		3.2	1.6	0.55	128

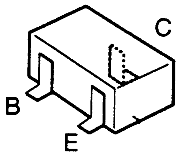
TRANSISTOR ILLUSTRATION



2SA1175

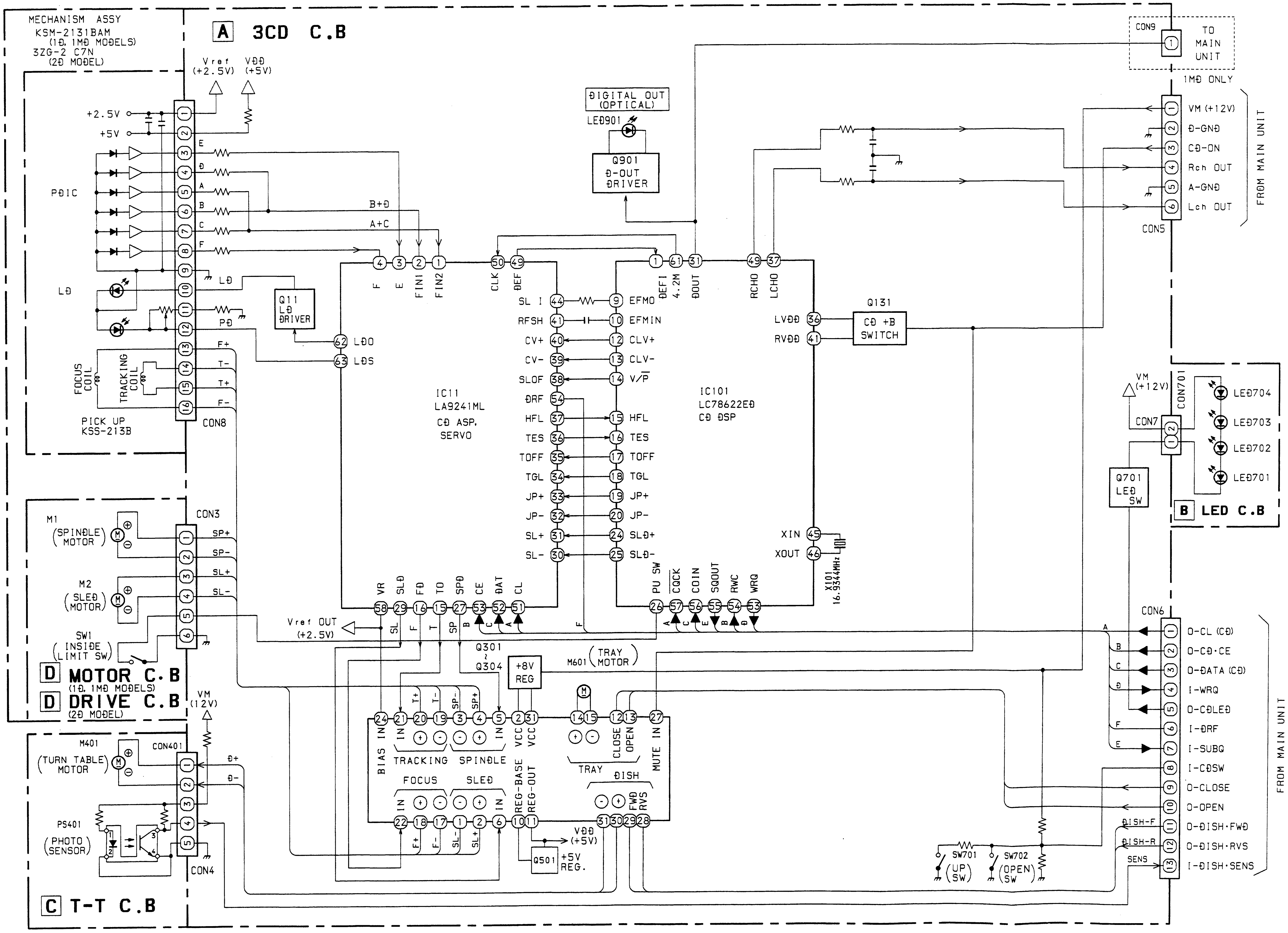


CSD655
KTA1266



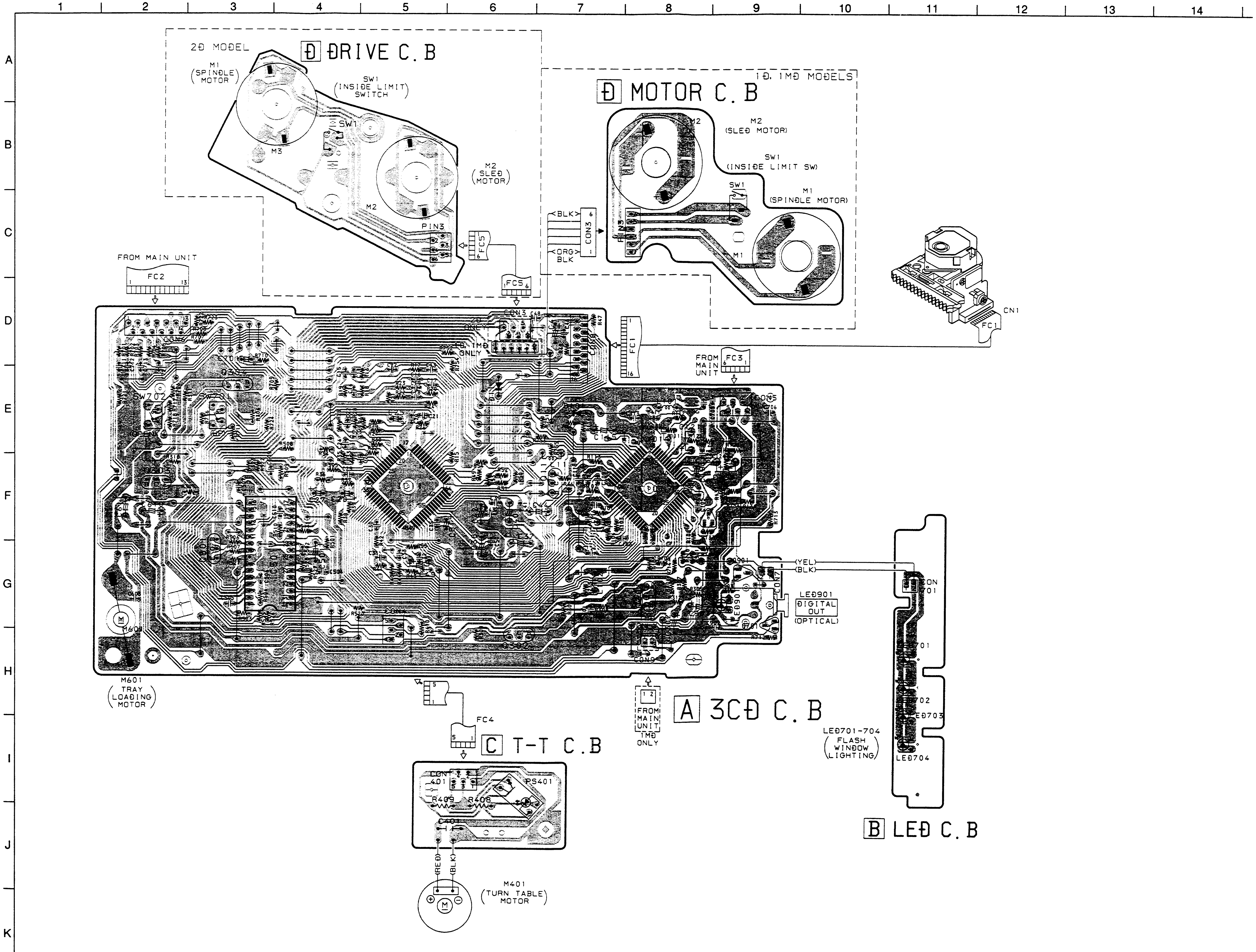
2SC3052
2SD1383
RT1N141C

BLOCK DIAGRAM



MECHANISM ASSY
KSM-2131BAM
(1Ð, 1MÐ MODELS)
3ZG-2 C7N
(2Ð MODEL)
A 3CD C.B
Vref (+2.5V)
VÐÐ (+5V)
+2.5V
+5V
PÐIC
LÐ
PÐ
FOCUS COIL
TRACKING COIL
PICK UP
KSS-213B
CON8
E
Ð
A
B
C
F
B+Ð
A+C
F+
T-
T+
F-
Q11
LÐ
ÐRIVER
LÐO
LÐS
F
E
FIN1
FIN2
CLK
ÐEF
SL I
RFSH
CV+
CV-
SLOF
ÐRF
HFL
TES
TOFF
TGL
JP+
JP-
SL+
SL-
IC11
LA9241ML
CÐ ASP,
SERVO
VR
SLÐ
FÐ
TO
SPÐ
CE
ÐAT
CL
Vref OUT
(+2.5V)
SL
F
T
SP
ÐIGITAL OUT
(OPTICAL)
LEÐ901
Q901
Ð-OUT
ÐRIVER
EFMO
EFMIN
CLV+
CLV-
V/P
HFL
TES
TOFF
TGL
JP+
JP-
SLÐ+
SLÐ-
ÐEFI
4.2M
ÐOUT
RCHO
LCHO
IC101
LC78622EÐ
CÐ ÐSP
LVÐÐ
RVÐÐ
XIN
XOUT
X101
16.9344MHz
PU SW
CQCK
COIN
SQOUT
RWC
WRQ
Q131
CÐ +B
SWITCH
CON9
TO
MAIN
UNIT
1MÐ ONLY
VM (+12V)
Ð-GNÐ
CÐ-ON
Rch OUT
A-GNÐ
Lch OUT
CON5
FROM MAIN UNIT
VM
(+12V)
CON7
CON701
LEÐ704
LEÐ703
LEÐ702
LEÐ701
Q701
LEÐ
SW
B LEÐ C.B
CON6
O-CL (CÐ)
O-CÐ·CE
O-ÐATA (CÐ)
I-WRQ
O-CÐLEÐ
I-ÐRF
I-SUBQ
I-CÐSW
O-CLOSE
O-OPEN
O-ÐISH·FWÐ
O-ÐISH·RVS
I-ÐISH·SENS
ÐISH-F
ÐISH-R
SENS
FROM MAIN UNIT
SW701
(UP SW)
SW702
(OPEN SW)
M1
(SPINÐLE MOTOR)
M2
(SLEÐ MOTOR)
SW1
(INSIÐE LIMIT SW)
CON3
SP+
SP-
SL+
SL-
D MOTOR C·B
(1Ð, 1MÐ MODELS)
D DRIVE C.B
(2Ð MODEL)
VM
(12V)
M401
(TURN TABLE MOTOR)
CON401
Ð+
Ð-
PS401
(PHOTO SENSOR)
CON4
C T-T C.B
Q301
~
Q304
+8V
REG
M601 (TRAY MOTOR)
BIAS IN
IN
TRACKING
SPINÐLE
T+
T-
SP-
SP+
IN
VCC
VCC
TRAY
CLOSE
OPEN
ÐISH
MUTE IN
FOCUS
SLEÐ
F+
F-
SL-
SL+
REG-BASE
REG-OUT
VÐÐ
(+5V)
Q501
+5V
REG.
FWÐ
RVS

WIRING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A
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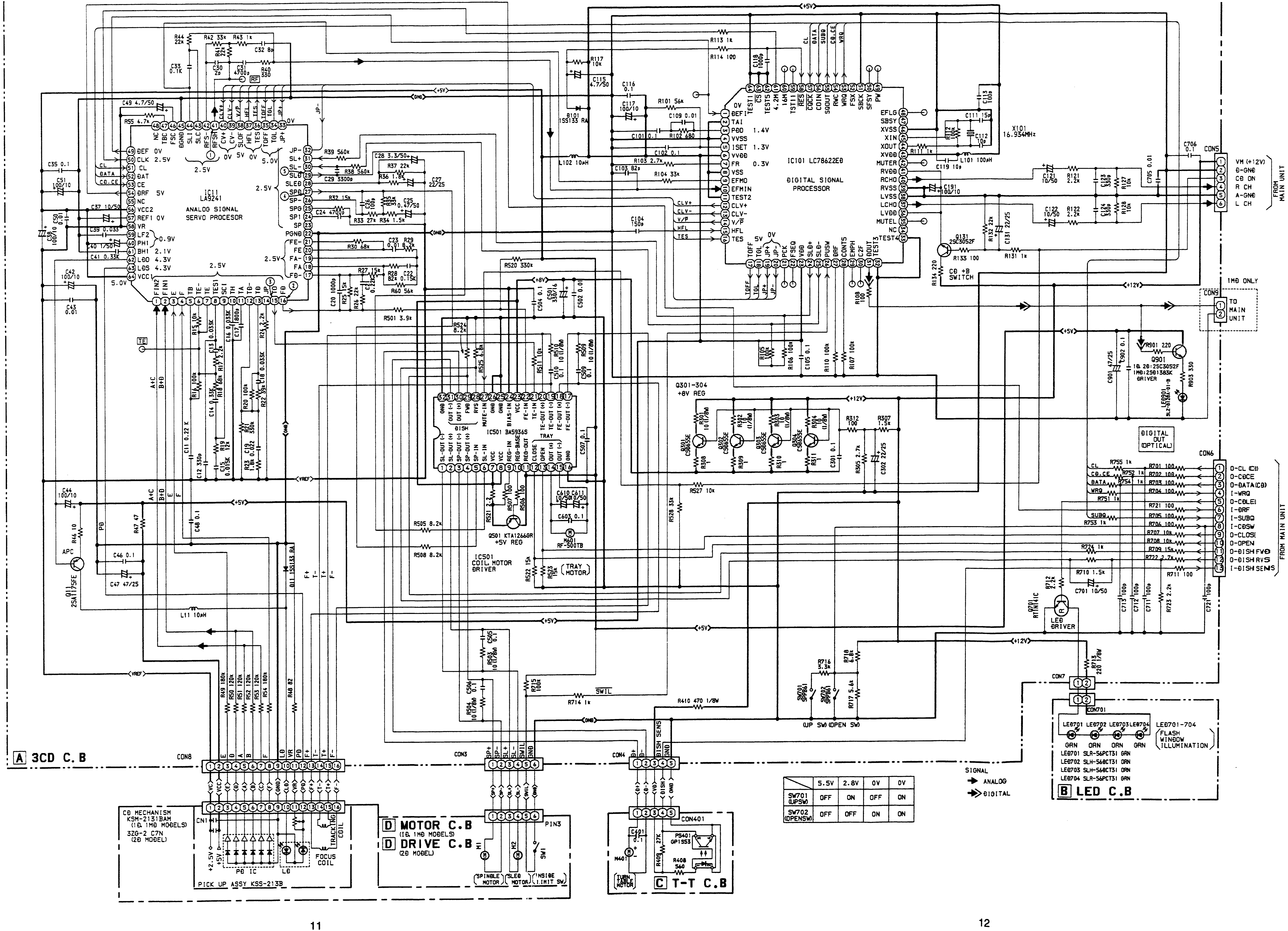
H
I
J
K
2D MODEL
D DRIVE C.B
M1 (SPINDLE MOTOR)
SW1 (INSIDE LIMIT SWITCH)
SW1
M3
M2 (SLED MOTOR)
M2
PIN3
FC5
1D, 1MD MODELS
D MOTOR C.B
M2
M2 (SLED MOTOR)
SW1 (INSIDE LIMIT SW)
SW1
M1 (SPINDLE MOTOR)
M1
PIN3
<BLK>
CON3
<ORG> BLK
CN1
FC1
FROM MAIN UNIT
FC2
FC5
CON3
2D ONLY
1D, 1MD ONLY
FC1
FROM MAIN UNIT
FC3
CON5
SW702
SW701
(YEL)
(BLK)
CON 701
LED901
DIGITAL OUT
(OPTICAL)
LED901
CON9
M601
M601 TRAY LOADING MOTOR
FC4
FROM MAIN UNIT 1MD ONLY
A 3CD C.B
LED701-704 FLASH WINDOW LIGHTING
LED701
LED702
LED703
LED704
C T-T C.B
CON 401
PS401
R409
R408
C401
(RED)
(BLK)
M401 (TURN TABLE MOTOR)
B LED C.B

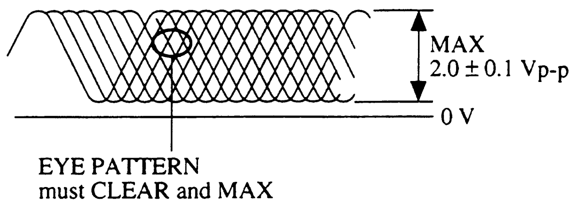
SCHEMATIC DIAGRAM


IC11 LA9241 ANALOG SIGNAL SERVO PROCESOR
IC101 LC78622E0 DIGITAL SIGNAL PROCESSOR
IC501 BA5936S
IC501 COIL MOTOR DRIVER
Q501 KTA1266GR +5V REG
Q301-304 +8V REG
Q131 2SC3052F CD +B SWITCH
Q1 2SA1175FE APC
Q901 1D, 2D: 2SC3052F 1MD: 2SD1383K DRIVER
Q701 RT1N141C LED DRIVER
X101 16.934MHz
M601 RF-500TB (TRAY MOTOR)
DIGITAL OUT (OPTICAL)
VM (+12V)
D-GND
CD ON
R CH
A-GND
L CH
FROM MAIN UNIT
1MD ONLY
CON9 TO MAIN UNIT
CON5
CON6
O-CL (CD)
O-CDCE
O-DATA(CD)
I-WRQ
O-CDLED
I-DRF
I-SUBQ
I-CDSW
O-CLOSE
O-OPEN
O-DISH FWD
O-DISH RVS
I-DISH SENS
CON7
CON701
LED701-704 (FLASH WINDOW ILLUMINATION)
LED701 SLR-56PCT31 GRN
LED702 SLR-56DCT31 ORN
LED703 SLR-56DCT31 ORN
LED704 SLR-56PCT31 GRN
B LED C.B
A 3CD C.B
CON8
CON3
CON4
(UP SW) (OPEN SW)
SW701
SW702
CD MECHANISM KSM-2131BAM (1D, 1MD MODELS) 3ZG-2 C7N (2D MODEL)
CN1
PD IC
LD
FOCUS COIL
TRACKING COIL
PICK UP ASSY KSS-213B
D MOTOR C.B (1D, 1MD MODELS)
D DRIVE C.B (2D MODEL)
PIN3
SPINDLE MOTOR
SLED MOTOR
INSIDE LIMIT SW
SW1
CON401
PS401 GP1S53
TURN TABLE MOTOR
M401
C T-T C.B
SIGNAL
ANALOG
DIGITAL

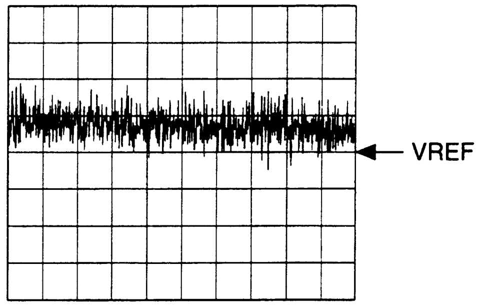
	5.5V	2.8V	0V	0V
SW701 (UPSW)	OFF	ON	OFF	ON
SW702 (OPENSW)	OFF	OFF	ON	ON

WAVE FORM

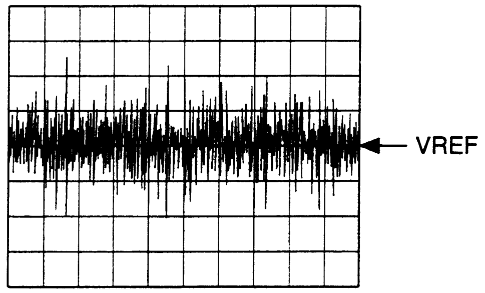
① IC11 Pin ㊶ (RFSM) VOLT/DIV: 0.5V
TIME/DIV: 1μS


MAX
2.0 ± 0.1 Vp-p
0 V
EYE PATTERN
must CLEAR and MAX

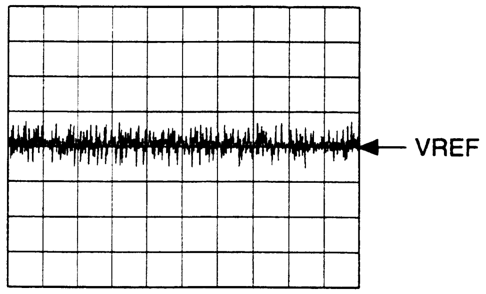
② IC11 Pin ⑯ (FD) VOLT/DIV: 100mV
TIME/DIV: 1mS



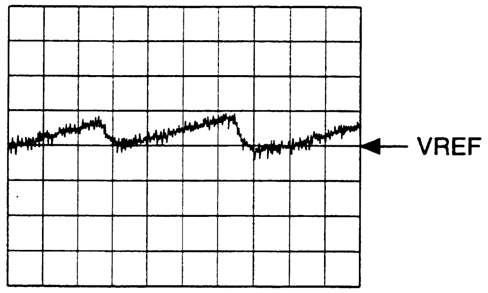
③ IC11 Pin ⑮ (TO) VOLT/DIV: 100mV
TIME/DIV: 1mS



④ IC11 Pin ㉗ (SPD) VOLT/DIV: 100mV
TIME/DIV: 1mS

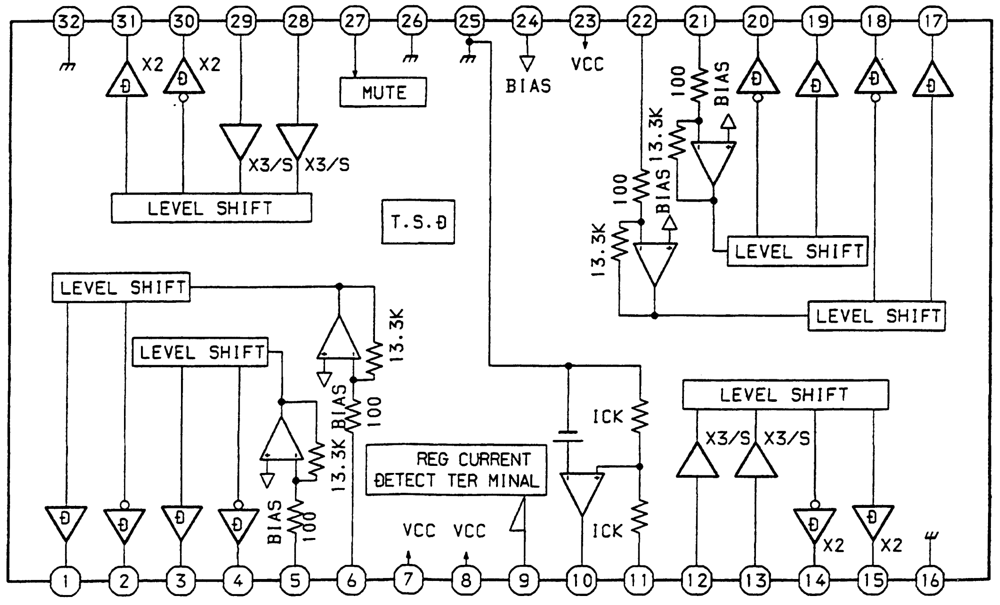


⑤ IC11 Pin ㉙ (SLD) VOLT/DIV: 200mV
TIME/DIV: 2S



IC BLOCK DIAGRAM

IC, BA5936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X2
X2
MUTE
BIAS
VCC
100
13.3K
BIAS
X3/S
X3/S
LEVEL SHIFT
T.S.D
100
13.3K
BIAS
13.3K
LEVEL SHIFT
LEVEL SHIFT
LEVEL SHIFT
LEVEL SHIFT
13.3K
100
BIAS
13.3K
BIAS
100
ICK
REG CURRENT
DETECT TER MINAL
X3/S
X3/S
VCC
VCC
ICK
X2
X2
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IC DESCRIPTION

IC, LA9241M

端子番号	端子名称	I/O	機　能　説　明
1	FIN2	I	ピックアップのフォトダイオード接続用ピン。FIN1ピンとの加算でRF信号を生成し、減算でFE信号を生成する。
2	FIN1	I	ピックアップのフォトダイオード接続用ピン。
3	E	I	ピックアップのフォトダイオード接続用ピン。Fピンとの減算でTE信号を生成する。
4	F	I	ピックアップのフォトダイオード接続用ピン。
5	TB	I	TE信号のDC成分入力用ピン。
6	TE−	I	TE信号のゲイン設定用抵抗をTEピン間に接続するピン。
7	TE	O	TE信号出力ピン。
8	TESI	I	TES “Track Error Sence” コンパレータ入力ピン。TE信号をバンドパスし、入力する。
9	SCI	I	ショック検出用入力ピン。
10	TH	I	トラッキングゲイン時定数設定用ピン。
11	TA	O	TAアンプ出力ピン。
12	TD−	I	トラッキング位相補償定数をTD、VRピン間で構成するためのピン。
13	TD	I	トラッキング位相補償設定用ピン。
14	JP	I	トラッキングシャンプ信号 (キックパルス) 振幅設定用ピン。
15	TO	O	トラッキング制御信号出力ピン。
16	FD	O	フォーカシング制御信号出力ピン。
17	FD−	I	フォーカシング位相補償定数をFD、FAピン間で構成するためのピン。
18	FA	I	フォーカシング位相補償定数をFD−、FA−ピン間で構成するためのピン。
19	FA−	I	フォーカシング位相補償定数をFA、FEピン間で構成するためのピン。
20	FE	O	FE信号の出力ピン。
21	FE−	I	FE信号のゲイン設定用抵抗をFEピン間に接続するピン。
22	AGND	—	アナログ信号用GND。
23	NC	—	NO CONNECT
24	SP	O	CV+、CV−ピン入力信号のシングルエンド出力。
25	SPG	I	スピンドル12cmモード時ゲイン設定用抵抗接続ピン。
26	SP−	I	SPDピンとともにスピンドル位相補償定数接続用ピン。
27	SPD	O	スピンドル制御信号出力ピン。
28	SLEQ	I	スレッド位相補償定数接続用ピン。
29	SLD	O	スレッド制御信号出力ピン。
30、31	SL−、SL+	I	マイコンからのスレッド送り信号入力ピン。
32、33	JP−、JP+	I	DSPからのトラッキングジャンプ信号入力ピン。
34	TGL	I	DSPからのトラッキングゲインコントロール信号入力ピン。 TGL=「H」でゲインロー。
35	TOFF	I	DSPからのトラッキングオフコントロール信号入力ピン。 TOFF=「H」でオフ。
36	TES	O	TES信号をDSPへ出力するピン。
37	HFL	O	“High Frequency Level” は、メインビームの位置がビット上か、ミラー上かの判断に利用される。

端子番号	端子名称	I/O	機　能　説　明
38	SLOF	I	スレッドサーボオフコントロール入力ピン。
39、40	CV－、CV＋	I	DSPからのCLVエラー信号入力用ピン。
41	RFSM	O	RF出力ピン。
42	RFS－	I	RFSMピンとともにRFのゲイン設定およびEFM信号の3T補償定数設定用ピン。
43	SLC	O	“Slice Level Control”は、RF波形のDSPによるデータスライスのレベルを制御する出力ピン。
44	SLI	I	DSPによるデータスライスのレベルを制御するための入力ピン。
45	DGND	—	ディジタル系のGNDピン。
46	FSC	O	フォーカスサーチスムージングコンデンサ用出力ピン。
47	TBC	I	“Tracking Balance Control”EFバランス可変範囲用設定ピン。
48	NC	—	NO CONNECT
49	DEF	O	ディスクのディフェクト検出出力ピン。
50	CLK	I	基準クロック入力ピン。DSPの4.23MHzが入力される。
51	CL	I	マイコンコマンドクロック入力ピン。
52	DAT	I	マイコンコマンドデータ入力ピン。
53	CE	I	マイコンコマンドチップイネーブル入力ピン。
54	DRF	O	“Detect RF”RFレベル検出出力。
55	FSS	I	“Focus Serch Select”フォーカスサーチモード(基準電圧に対し±サーチ／＋サーチ)の切り換えピン。
56	VCC2	—	サーボ系、ディジタル系用VCCピン。
57	REFI	—	基準電圧用パスコン接続用ピン。
58	VR	O	基準電圧出力ピン。
59	LF2	I	ディスクのディフェクト検出時定数設定用ピン。
60	PH1	I	RF信号のピークホールド用コンデンサ接続用ピン。
61	BH1	I	RF信号のボトムホールド用コンデンサ接続用ピン。
62	LDD	O	APC回路出力ピン。
63	LDS	I	APC回路入力ピン。
64	VCC1	—	RF系VCCピン。

IC, LC78622E

端子番号	端子名称	I/O	機 能 説 明	
1	DEFI	I	ディフェクト検出信号 (DEF) 入力端子。(未使用時、0Vに接続すること。)	
2	TAI	I	PLL用	テスト用入力端子。プルダウン抵抗内蔵。必ず0Vに接続すること。
3	PDO	O		外部VCO制御用位相比較出力端子。
4	VVSS	—		内蔵VCO用接地端子。必ず0Vに接続すること。
5	ISET	I		PDO出力の電流調整用抵抗接続端子。
6	VVDD	—		内蔵VCO用電源端子。
7	FR	I		VCO周波数レンジ調整用。
8	VSS	—	ディジタル系接地端子。必ず0Vに接続すること。	
9	EFMO	O	スライスレベルコントロール用	EFM信号出力端子。
10	EFMIN	I		EFM信号入力端子。
11	TEST2	I	テスト用入力端子。プルダウン抵抗内蔵。必ず0Vに接続すること。	
12、13	CLV＋、CLK－	O	ディスクモータコントロール用出力。コマンドにより3値出力可能。	
14	V/$\overline{P}$	O	ラフサーボ／位相制御の自動切り換えモニタ出力端子。「H」でラフサーボ、「L」で位相サーボ。	
15	HFL	I	トラック検出信号入力端子。シュミット入力。	
16	TES	I	トラッキング誤差信号入力端子。シュミット入力。	
17	TOFF	O	トラッキングOFF出力端子。	
18	TGL	O	トラッキング・ゲイン切り換え用出力端子。「L」でゲインを上げる。	
19、20	JP＋、JP－	O	トラックジャンプコントロール用出力。コマンドにより3値出力可能。	
21	PCK	O	EFMデータ再生用クロックモニタ端子。位相ロック時、4.3218MHz。	
22	FSEQ	O	同期信号検出出力端子。EFM信号から検出した同期信号と内部生成の同期信号が一致した時に「H」。	
23	VDD	—	ディジタル系電源端子。	
24～28	CONT1～CONT5	I/O	汎用入出力端子1～5	マイコンからのシリアルデータコマンドで制御。使用しない場合、入力端子に設定して0Vに接続するか出力端子に設定してオープンにすること。
29	EMPH	O	ディエンファシス・モニタ出力端子。「H」の時ディエンファシス・ディスク再生中。	
30	C2F	O	C2フラグ出力端子。	
31	DOUT	O	ディジタルOUT出力端子。(EIAJフォーマット)	
32、33	TEST3、TEST4	I	テスト用入力端子。プルダウン抵抗内蔵。必ず0Vに接続すること。	
34	N.C.	—	未使用端子。オープンで使用すること。	
35	MUTEL	O	Lチャネル1ビットDAC	Lチャネル用ミュート出力端子。
36	LVDD	—		Lチャネル用電源端子。
37	LCHO	O		Lチャネル出力端子。
38	LVSS	—		Lチャネル用接地端子。必ず0Vに接続すること。
39	RVSS	—	Rチャネル1ビットDAC	Rチャネル用接地端子。必ず0Vに接続すること。
40	RCHO	O		Rチャネル出力端子。
41	RVDD	—		Rチャネル用電源端子。
42	MUTER	O		Rチャネル用ミュート出力端子。
43	XVDD	—	水晶発振用電源端子。	

端子番号	端子名称	I/O	機能説明
44	XOUT	O	16.9344MHz水晶振動子の接続端子。
45	XIN	I	
46	XVSS	—	水晶発振用接地端子。必ず0Vに接続すること。
47	SBSY	O	サブコードブロックの同期信号出力端子。
48	EFLG	O	C1、C2、1重、2重の訂正モニタ端子。
49	PW	O	サブコードP、Q、R、S、T、U、Wの出力端子。
50	SFSY	O	サブコードフレーム同期信号出力端子。サブコードがスタンバイした時、立下る。
51	SBCK	I	サブコード読み出しクロック入力端子。シュミット入力。(未使用時0Vに接続すること。)
52	FSX	O	水晶発振から分周した7.35kHz同期信号出力端子。
53	WRQ	O	サブコードQ出力スタンバイ出力端子。
54	RWC	I	リード／ライト制御入力端子。シュミット入力。
55	SQOUT	O	サブコードQ出力端子。
56	COIN	I	マイコンからのコマンド入力端子。
57	$\overline{\mathrm{CQCK}}$	I	コマンド入力取り込みクロックまたはSQOUTからのサブコード取り出しクロック入力端子。シュミット入力。
58	$\overline{\mathrm{RES}}$	I	LC78622リセット入力端子。電源投入時に、一旦「L」にする。
59	TST11	O	テスト用出力端子。オープン (通常「L」出力) で使用すること。
60	16M	O	16.9344MHz出力端子。
61	4.2M	O	4.2336MHz出力端子。
62	TEST5	I	テスト用入力端子。プルダウン抵抗内蔵。必ず0Vに接続すること。
63	$\overline{\mathrm{CS}}$	I	チップセレクト入力端子。プルダウン抵抗内蔵。非制御時、0Vに接続すること。
64	TEST1	I	テスト用入力端子。プルダウン抵抗はない。必ず0Vに接続すること。

注) 各電源端子 (VDD、VVDD、LVDD、RVDD、XVDD) には必ず同電位を供給すること。

IC, LA9241M

Pin No.	Pin Name	I/O	Description
1	FIN2	I	Pin to which external pickup photo diode is connected. RF signal is created by adding with the FIN1 pin signal. FE signal is created by subtracting from the FIN1 pin signal.
2	FIN1	I	Pin to which external pickup photo diode is connected.
3	E	I	Pin to which external pickup photo diode is connected. TE signal is created by subtracting from the F pin signal.
4	F	I	Pin to which external pickup photo diode is connected.
5	TB	I	DC component of the TE signal is input.
6	TE–	I	Pin to which external resistor setting the TE signal gain is connected between the TE pin.
7	TE	O	TE signal output pin.
8	TESI	I	TES "Track Error Sense" comparator input pin. TE signal is passed through a band-pass filter then input.
9	SCI	I	Shock detection signal input pin.
10	TH	I	Tracking gain time constant setting pin.
11	TA	O	TA amplifier output pin.
12	TD–	I	Pin to which external tracking phase compensation constants are connected between the TD and VR pins.
13	TD	I	Tracking phase compensation setting pin.
14	JP	I	Tracking jump signal (kick pulse) amplitude setting pin.
15	TO	O	Tracking control signal output pin.
16	FD	O	Focusing control signal output pin.
17	FD–	I	Pin to which external focusing phase compensation constants are connected between the FD and FA pins.
18	FA	I	Pin to which external focusing phase compensation constants are connected between the FD– and FA– pins.
19	FA–	I	Pin to which external focusing phase compensation constants are connected between the FA and FE pins.
20	FE	O	FE signal output pin.
21	FE–	I	Pin to which external FE signal gain setting resistor is connected between the FE pin.
22	AGND	—	Analog signal GND.
23	NC	—	No connection.
24	SP	O	Single ended output of the CV+ and CV– pin input signal.
25	SPG	I	Pin to which external spindle gain setting resistor in 12 cm mode is connected.
26	SP–	I	Pin to which external spindle phase compensation constants are connected together with SPD pin.
27	SPD	O	Spindle control signal output pin.
28	SLEQ	I	Pin to which external sled phase compensation constants are connected.
29	SLD	O	Sled control signal output pin.
30, 31	SL–, SL+	I	Sled advance signal input pin from microprocessor.
32, 33	JP–, JP+	I	Tracking jump signal input pin from DSP.
34	TGL	I	Tracking gain control signal input from DSP. Low gain when TGL = H.
35	TOFF	I	Tracking off control signal input pin from DSP. Off when TOFF = H.

Pin No.	Pin Name	I/O	Description
36	TES	O	Pin from which TES signal is output to DSP.
37	HFL	O	"High Frequency Level" is used to judge whether the main beam position is on top of bit or on top of mirror.
38	SLOF	I	Sled servo off control input pin.
39, 40	CV–, CV+	I	CLV error signal input pin from DSP.
41	RFSM	O	RF output pin.
42	RFS–	I	RF gain setting and EFM signal 3T compensation constant setting pin together with RFSM pin.
43	SLC	O	"Slice Level Control" is the output pin which controls the RF signal data slice level by DSP.
44	SLI	I	Input pin which control the data slice level by the DSP.
45	DGND	—	Digital system GND.
46	FSC	O	Output pin to which external focus search smoothing capacitor is connected.
47	TBC	I	"Tracking Balance Control" EF balance variable range setting pin.
48	NC	—	No connection.
49	DEF	O	Disc defect detector output pin.
50	CLK	I	Reference clock input pin. 4.23 MHz of the DSP is input.
51	CL	I	Microprocessor command clock input pin.
52	DAT	I	Microprocessor command data input pin.
53	CE	I	Microprocessor command chip enable input pin.
54	DRF	O	"Detect RF" RF level detector output.
55	FSS	I	"Focus Search Select" focus search mode (± search/+ search) select pin.
56	VCC2	—	Servo system and digital system Vcc pin.
57	REFI	—	Pin to which external bypass capacitor for reference voltage is connected.
58	VR	O	Reference voltage output pin.
59	LF2	I	Disc defect detector time constant setting pin.
60	PH1	I	Pin to which external capacitor for RF signal peak holding is connected.
61	BH1	I	Pin to which external capacitor for RF signal bottom holding is connected.
62	LDD	O	APC circuit output pin.
63	LDS	I	APC circuit input pin.
64	VCC1	—	RF system Vcc pin.

IC, LC78622E

Pin No.	Pin Name	I/O	Description	
1	DEFI	I	Defect sense signal (DEF) input pin. (Connect to 0V when not used).	
2	TAI	I	For PLL.	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.
3	PDO	O		Phase comparator output pin to control external VCO.
4	VVSS	—		GND pin for built-in VCO. Be sure to connect to 0V.
5	ISET	I		Pin to which external resistor adjusting the PD0 output current.
6	VVDD	—		Power supply pin for built-in VCO.
7	FR	I		Pin for VCO frequency range adjustment.
8	VSS	—	Digital system GND. Be sure to connect to 0V.	
9	EFMO	O	For slice level control.	EFM signal output pin.
10	EFMIN	I		EFM signal input pin.
11	TEST2	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
12, 13	CLV+, CLK–	O	Disc motor control output. Three level output is possible using command.	
14	V/$\overline{P}$	O	Rough servo or phase control automatic selection monitoring output pin. Rough servo at H. Phase servo at L.	
15	HFL	I	Track detect signal input pin. Schmidt input.	
16	TES	I	Tracking error signal input pin. Schmidt input.	
17	TOFF	O	Tracking OFF output pin.	
18	TGL	O	Tracking gain selection output pin. Gain boost at L.	
19, 20	JP+, JP–	O	Track jump control signal output pin. Three level output is possible using command.	
21	PCK	O	EFM data playback clock monitoring pin 4.3218 MHz when phase is locked in.	
22	FSEQ	O	Sync signal detection output pin. H when the sync signal which is detected from EFM signal and thesync signal which is internally generated agree.	
23	VDD	—	Digital system power supply pin.	
24~28	CONT1~CONT5	I/O	General purpose input/output pin 1 to 5.	The pin is controlled by the serial data command from microprocessor. When the pin is not used, set the pin to the input terminal and connect to 0V, or alternately set the pin to output terminal and leave the pin open.
29	EMPH	O	De-emphasis monitor output pin. De-emphasis disc is being played back at H.	
30	C2F	O	C2 flag output pin.	
31	DOUT	O	DIGITAL OUT output pin. (EIAJ format).	
32, 33	TEST3, TEST4	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
34	N.C.	—	Not used. Set the pin to open.	
35	MUTEL	O	L-channel 1-bit DAC.	L-channel mute output pin.
36	LVDD	—		L-channel power supply pin.
37	LCHO	O		L-channel output pin.
38	LVSS	—		L-channel GND. Be sure to connect to 0V.
39	RVSS	—	R-channel 1-bit DAC.	R-channel GND. Be sure to connect to 0V.
40	RCHO	O		R-channel output pin.
41	RVDD	—		R-channel power supply pin.
42	MUTER	O		R-channel mute output pin.

Pin No.	Pin Name	I/O	Description
43	XVDD	—	Crystal oscillator power supply pin.
44	XOUT	O	Pin to which external 16.9344 MHz crystal oscillator is connected.
45	XIN	I	
46	XVSS	—	Crystal oscillator GND pin. Be sure to connect to 0V.
47	SBSY	O	Subcode block sync signal output pin.
48	EFLG	O	C1, C2, single and dual correction monitoring pin.
49	PW	O	Subcode P, Q, R, S, T, U and W output pin.
50	SFSY	O	Subcode frame sync signal output pin. Falls down when subcode enters standby.
51	SBCK	I	Subcode read clock input pin. Schmidt input. (Be sure to connected to 0V when not in use.)
52	FSX	O	Pin outputting the 7.35 kHz sync signal which is generated by dividing frequency of crystal oscillator.
53	WRQ	O	Subcode Q output standby output pin.
54	RWC	I	Read/write control input pin. Schmidt input.
55	SQOUT	O	Subcode Q output pin.
56	COIN	I	Command input pin from microprocessor.
57	$\overline{\text{CQCK}}$	I	Command input read clock or subcode read input clock from SQOUT pin
58	$\overline{\text{RES}}$	I	LC78622 reset input pin. Set this pin to L once when the main power is turned on.
59	TST11	O	Test signal output pin. Use this pin as open (normally L output).
60	16M	O	16.9344 MHz output pin.
61	4.2M	O	4.2336 MHz output pin.
62	TEST5	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.
63	$\overline{\text{CS}}$	I	Chip select signal input pin with built-in pull-down resistor. Be sure to connect to 0V while it is not controlling.
64	TEST1	I	Test signal input pin without built-in pull-down resistor. Be sure to connect to 0V.

Note: The same potential must be applied to the respective power supply terminals. (VDD, VVDD, LVDD, RVDD, XVDD)

TEST MODE

1. CDテストモードの起動方法
ファンクションCDの釦を押しながら、ACプラグを挿入する。
上記によりFL表示管が全て点灯し、テストモードが起動します。

2. CDテストモードの解除方法
下記のいずれか1つの操作で解除します。
- ファンクション釦を押す（CDファンクション釦以外）
- パワーSW釦を押す。
- ACプラグを抜く。

3. CDテストモードの機能説明
テストモード起動後、各操作釦を押す事により次のNo1～No5の各モード機能が使用できます。

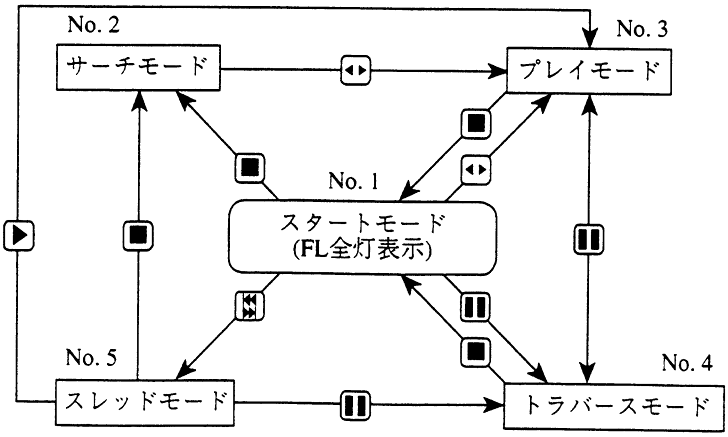
Mode/No.	操作	FL表示	動作	内容
スタートモード No.1	起動	全灯表示	● TEST MODE起動 ● CDブロック電源ON	● FL表示確認 (全灯)
サーチモード No.2	■ 釦	CD--	● LASER DIODE常時発光 ● 連続フォーカスサーチ (PUレンズがフルスイングを繰り返す) * 10分以上の連続フォーカスは避けて下さい。 *注1	● APC回路確認 ● レーザー電流測定 (レーザー電流コントロール、トランジスタのエミッターGND間の抵抗の両端。) FOCUS SERVO ● フォーカスラッチ波形確認 ● フォーカスエラー波形確認 (サーチモードではFOK/FZCは監視せず。)
プレイモード No.3	◀▶ 釦	CD11	● 通常再生 ● TOC READ出来ない場合 フォーカスサーチを続行 *注1	FOCUS SERVO/TRACKING SERVO CLV SERVO/SLED SERVO DRF確認
トラバースモード No.4	❚❚ 釦	CD11	● DISC通常再生中 1回押す トラッキングサーボOFF 2回押す トラッキングサーボON *注2	TRACKING SERVO ON/OFF トラッキングバランス (トラバース) 確認
スレッドモード No.5	⏮ 釦 ⏭	全灯表示	● ピックアップ外周へ移動 ● ピックアップ内周へ移動 *注3 (再生中は通常動作致します)	SLED SERVO SLEDメカ動作確認

*注1 フォーカスサーチを連続して10分以上動作し続けるとドライバーICが発熱し保護回路が働く為、トラッキングサーボがかからない状態となる場合が有ります。この様な場合には、電源を切り約10分間放熱後、再スタートして下さい。

*注2 「❚❚」状態で、「⏮」または「⏭」釦を押さない事。「❚❚」状態解除後、再生出来なくなります。「❚❚」状態で、「⏮」または「⏭」釦を押した場合には「■」釦を押しスタートモード(No.1)に戻して下さい。

*注3 ピックアップが最内周、最外周の位置でも「⏮」または「⏭」釦を押している間はスレッドモータが回転する為、ギヤ破損に注意して下さい。

4. 操作概要
下図の様にスタートモードから、矢印方向の流れで各モードの操作が行えます。モード変更は、下図の流れに従い行って下さい。



尚、DISC DIRECT PLAY釦を押した場合には、上図のPLAY釦を押した時と同様の動作となります。またプレイモード／トラバースモード時にopen/close釦により、トレイをopenさせた場合には、スタートモードに戻ります。

1. How to Activate CD Test Mode
   Insert the AC plug while pressing the function CD button.
   All FL display tubes will light up, and the test mode will be activated.

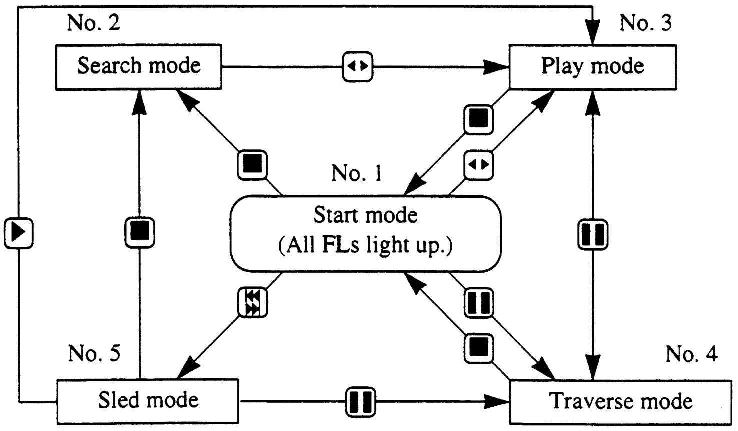
2. How to Cancel CD Test Mode
   Either one of the following operations will cancel the CD test mode.
   - Press the function button. (except CD function button)
   - Press the power switch button.
   - Disconnect the AC plug

3. CD Test Mode Functions
   When test mode is activated, the following mode functions from No.1 to No.5 can be used by pressing the operation keys.

Mode/No.	Operation	FL display	Operation	Contents
Start mode No.1	Activation	All lamps light	• Test mode is activated. • CD block power is ON.	• FL display check (All displays light.)
Search mode No.2	■ key	CD--	• Laser diode turns always ON. • Continual focus search (The pickup lens repeats the full-swing up-down motion.) * Avoid continual searches that last for more than 10 minutes. * NOTE 1	• APC circuit check • Laser current measurement (Laser current control. Across a resistor connected between emitter and GND.) FOCUS SERVO • Check focus search waveform • Check focus error waveform (FOK/FZC are not monitored in the search mode)
Play mode No.3	◀▶ key	CD 1	• Normal playback • Focus search is continued if TOC cannot be read. * NOTE 1	FOCUS SERVO/TRACKING SERVO CLV SERVO/SLED SERVO Check DRF
Traverse mode No.4	❚❚ key	CD 1	• During normal disc playback Press once; tracking servo OFF Press twice; tracking servo ON * NOTE 2	TRACKING SERVO ON/OFF Tracking balance (traverse) check
Sled mode No.5	⏮ key ⏭	All lamps light	• Pickup moves to the outermost track • Pickup moves to the innermost track * NOTE 3 (During playback, machine operates normally.)	SLED SERVO Check SLED mechanism operation

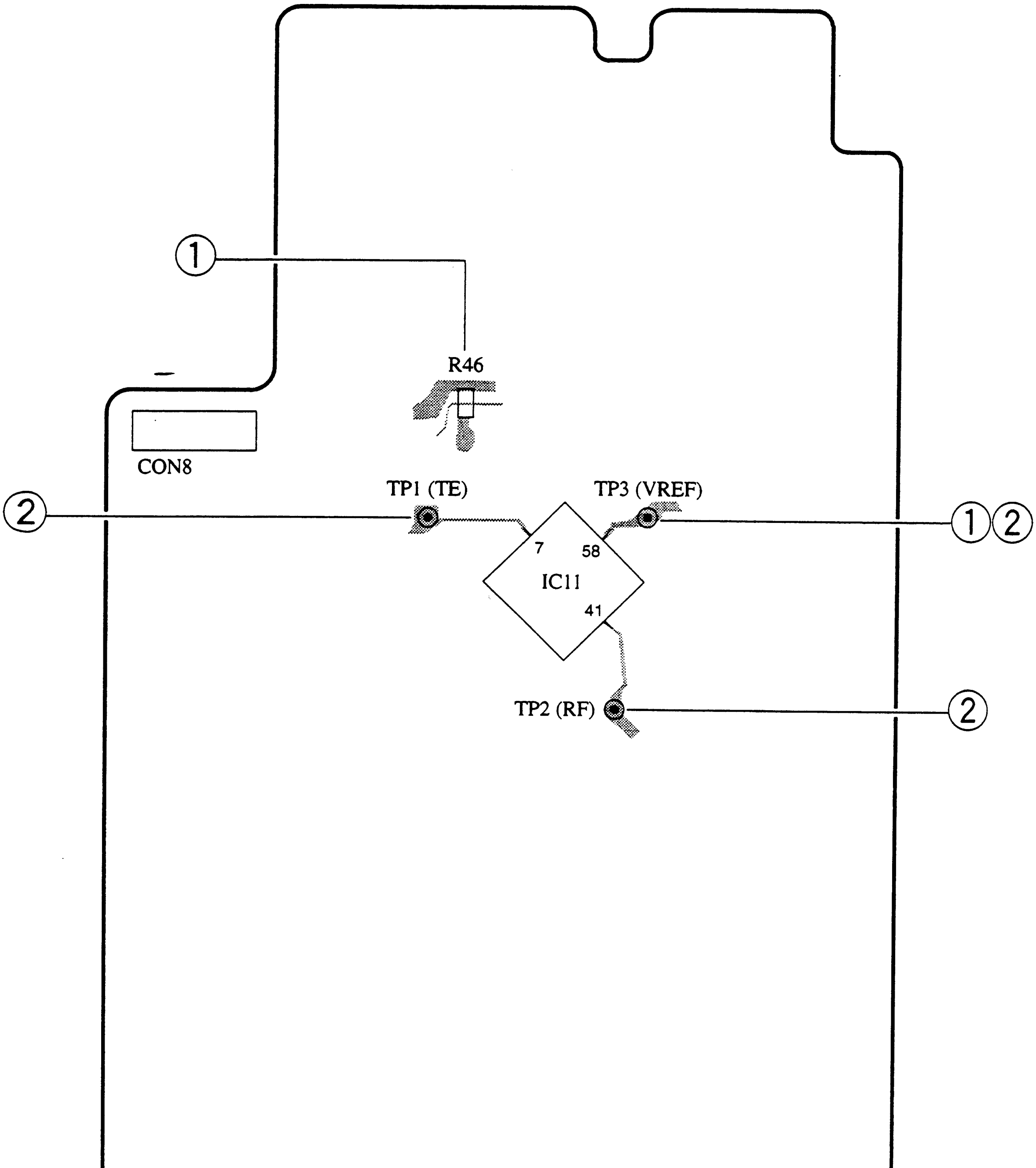
* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.
* NOTE 2: Do not press the ⏮ or ⏭ keys when the machine is in the ❚❚ status is active. If they are pressed, playback will not be possible after the ❚❚ status has been canceled. If the ⏮ or ⏭ keys are pressed in the ❚❚ status, press the ■ key and return to the start mode (No.1).
* NOTE 3: When pressing the ⏮ or ⏭ keys, take care to avoid damage to the gears. Because the sled motor is activated when the ⏮ or ⏭ keys are pressed, even when the pick-up is at the outermost or innermost track.

4. Operation Outline
   The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.



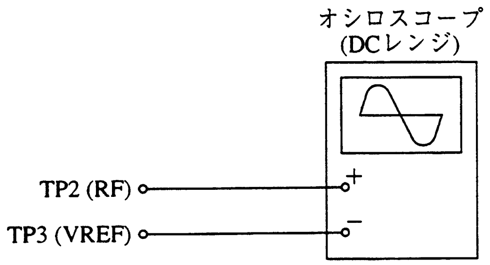
If the DISC DIRECT PLAY button is pressed, the machine performs the same operation as the PLAY button is pressed as shown. If the tray is opened by pressing OPEN/CLOSE button during Play mode or Traverse mode, the machine returns to the Start mode.

A 3CD C.B (PATTERN SIDE)

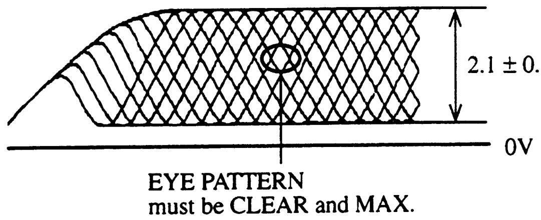

①
R46
CON8
②
TP1 (TE)
TP3 (VREF)
①②
7
58
IC11
41
TP2 (RF)
②

注意：・(10: 1) のプローブを接続して、調整して下さい。
・各調整には、オシロスコープの⊖側をTP3 (VREF) に接続して下さい。

1. RF 波形の確認

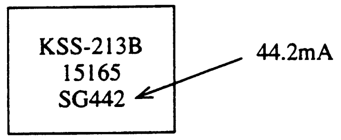

オシロスコープ
(DCレンジ)
TP2 (RF)
TP3 (VREF)
+
−

1) テストポイントTP2 (RF)、TP3 (VREF) にオシロスコープを接続する。
2) POWERスイッチをONにする。
3) テストディスクTCD-782 (YEDS-18) を入れて2曲目をPLAYさせる。
4) オシロスコープの波形の振幅が2.1 Vp-pとなり、かつ中央のひし形が、鮮明である事を確認する。


2.1 ± 0.2 Vp-p
0V
EYE PATTERN
must be CLEAR and MAX.

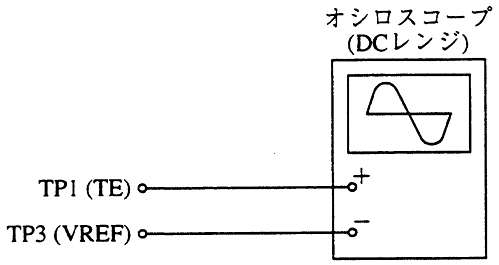
VOLT/DIV : 50mV
TIME/DIV : 0.5 μS

注意： レーザー電流の確認はR46 (10 Ωの両端電圧) で行えます。レーザーピックアップの裏側のラベルの電流値に対して± 6.0mAに入っていること。

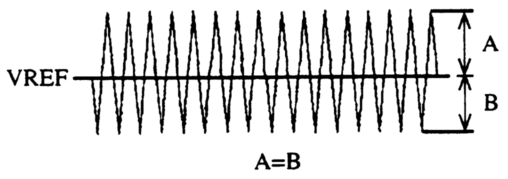

KSS-213B
15165
SG442
44.2mA

$$\text{レーザー電流Iop} = \frac{\text{R46の両端電圧}}{10\Omega}$$

2. トラッキング・バランス確認


オシロスコープ
(DCレンジ)
TP1 (TE)
TP3 (VREF)
+
−

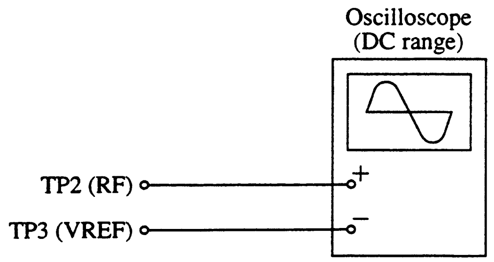
1) テストポイントTP1 (TE)、TP3 (VREF) にオシロスコープを接続する。
2) CDテストモードを起動する。
3) テストディスクTCD-782 (YEDS-18) を入れて、CDテストモードのトラバースモードにする。
4) オシロスコープのトラバース波形が、下図のように上下対称である事を確認する。
5) 確認後、CDテストモードを解除する。



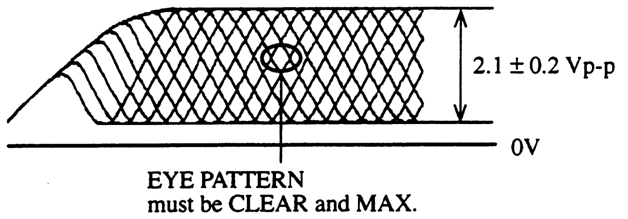
VOLT/DIV : 20mV
TIME/DIV : 1mS

Note:
- Connect a probe (10: 1) of the oscilloscope or the frequency counter to a test point.
- During adjustment, connect (⊖) pin of an oscilloscope to TP3 (VREF).

1. RF waveform Check

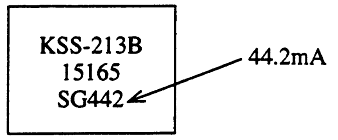

Oscilloscope
(DC range)
TP2 (RF)
TP3 (VREF)
+
−

1) Connect an oscilloscope to test points TP2 (RF) and TP3 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and play back the second program.
4) Confirm that the waveform at oscilloscope has amplitude of 2.1 Vp-p, and clear wedge area in its center.


2.1 ± 0.2 Vp-p
0V
EYE PATTERN
must be CLEAR and MAX.

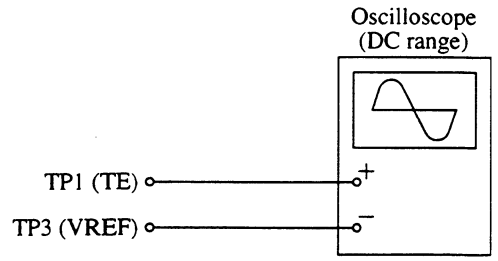
VOLT/DIV: 50mV
TIME/DIV: 0.5µS

Note: The current of the laser signal can be checked with the voltages on both sides of R46 (voltage across 10Ω).
The difference for the specified value shown on the label must be within ± 6.0mA.

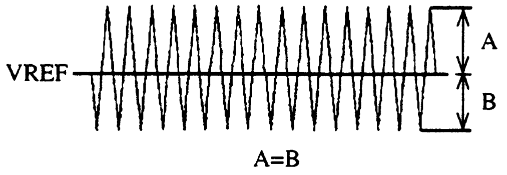

KSS-213B
15165
SG442
44.2mA

$$\text{Laser current Iop} = \frac{\text{Voltage across R46}}{10\Omega}$$

2. Tracking Balance Check

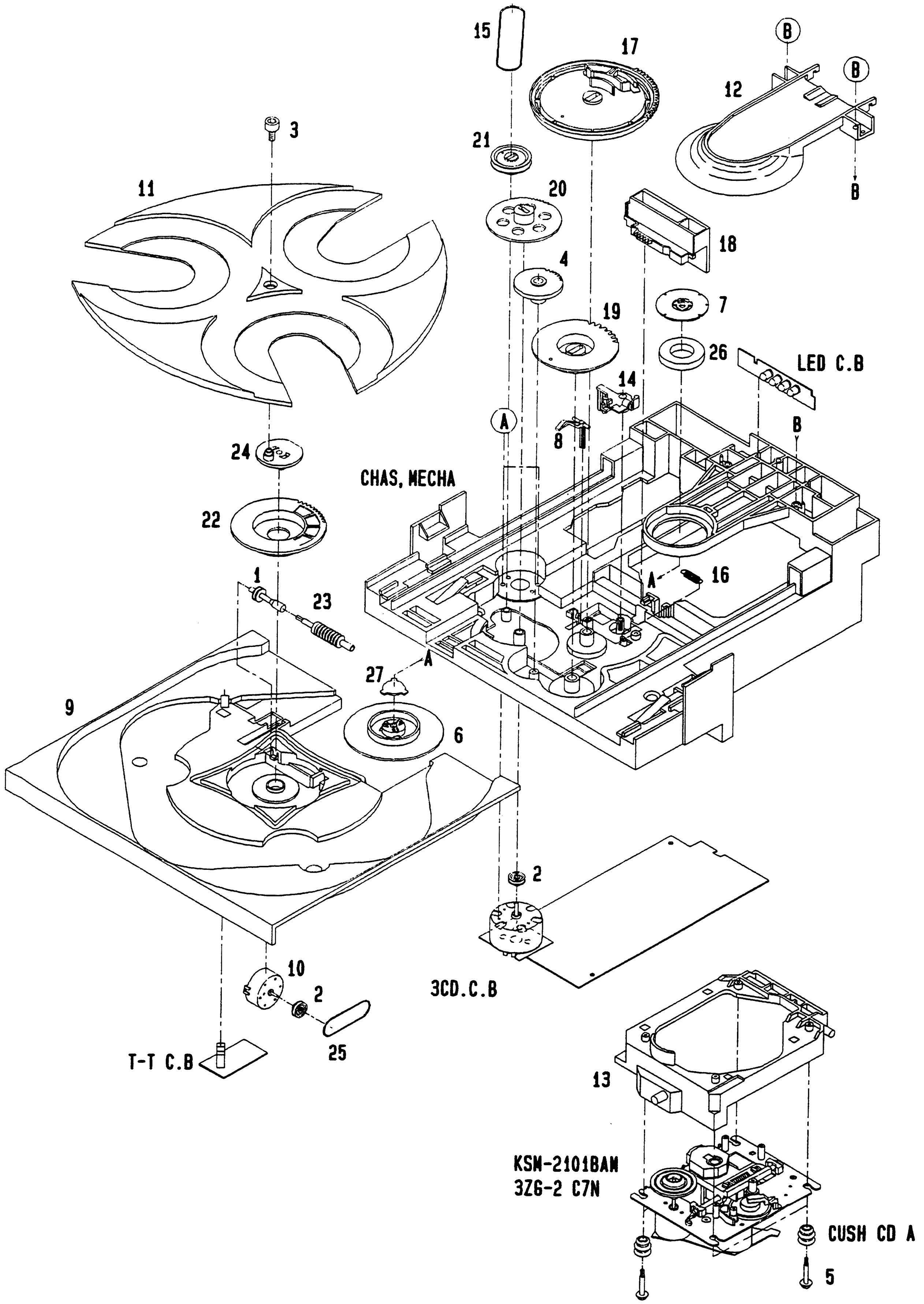

Oscilloscope
(DC range)
TP1 (TE)
TP3 (VREF)
+
−

1) Connect an oscilloscope to test points TP1 (TE) and TP3 (VREF).
2) Start up the CD test mode.
3) Insert the test disc TCD-782(YEDS-18) and enter the traverse mode of the CD test mode.
4) Confirm that the traverse waveform on an oscilloscope is vertically symmetrical as shown in the figure below.
5) After confirming the waveform, release the CD test mode.



VOLT/DIV: 20mV
TIME/DIV: 1mS

MECHANICAL EXPLODED VIEW 1／1

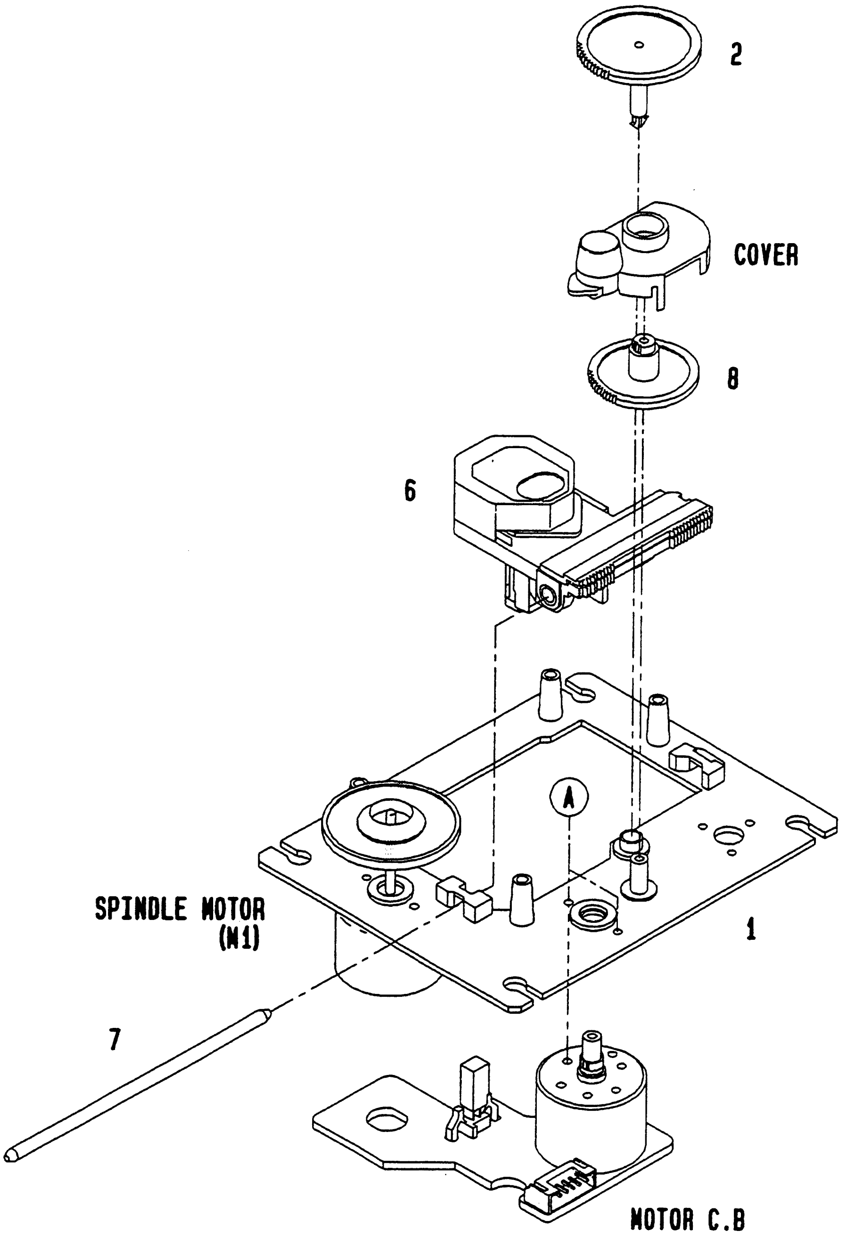


MECHANICAL PARTS LIST 1／1

DESCRIPTIONで判断できない物は “REFERENCE NAME LIST” を参照してください。
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	84-ZG1-239-110	1A	PULLY,WORM N
2	81-ZG1-212-010	0E	PULLY,LOAD MO
3	81-ZG1-239-010	0E	S-SCREW,TT
4	81-ZG1-291-010	0E	GEAR,TRAY RELAY NO3
5	81-ZG1-271-010	0E	S-SCREW,MECH REAR
6	81-ZG1-277-210	1A	HLDR,MAGNET N
7	81-ZG1-229-110	0E	PLATE,MAGNET<1MD,1D>
7	81-ZG1-255-110	0E	PLATE,MAGNET MK2<1DM,2DM>
8	83-ZG3-213-010	0E	LVR,SW
9	84-ZG1-003-210	1M	TRAY,NO2-B
10	87-045-364-010	1D	MOTOR,(BCH3B14)
11	84-ZG1-005-110	1C	TURNTABLE,NO1
12	84-ZG1-011-010	1A	REFLECTOR,CD
13	84-ZG1-212-110	1A	HLDR,MECHA NO2
14	84-ZG1-208-010	0E	LEVER,CAM
15	84-ZG1-209-010	0E	BELT,SQ1.8-117.7
16	84-ZG1-211-010	0E	SPR-E CAM S
17	84-ZG1-215-210	1B	GEAR,MAIN CAM BLU
18	84-ZG1-216-210	1A	SLIDE,MECHA CAM YEL
19	84-ZG1-205-110	1A	GEAR,TRAY
20	84-ZG1-206-110	0E	GEAR,RELAY
21	84-ZG1-207-010	0E	PULLY,RELAY
22	84-ZG1-221-010	1A	GEAR,MAIN TT
23	84-ZG1-238-010	1A	GEAR,WORM N
24	84-ZG1-224-010	0E	LEVER,TT
25	84-ZG1-225-010	0E	BELT,SQ1.0-63.3
26	87-036-326-010	0E	MAGNET,CLAMPER 93<1MD,1D,1DM>
26	83-ZG3-602-010	0E	RING,MAG<2DM>
27	84-ZG1-248-010	0E	SPR-C,WORM
A	87-251-070-410	0E	U+2.6-3
B	87-067-703-010	0E	BVT 2+3-10 W/O SLOT

CD MECHANISM EXPLODED VIEW 1／1 (KSM-2131BAM <1D, 1MD>)

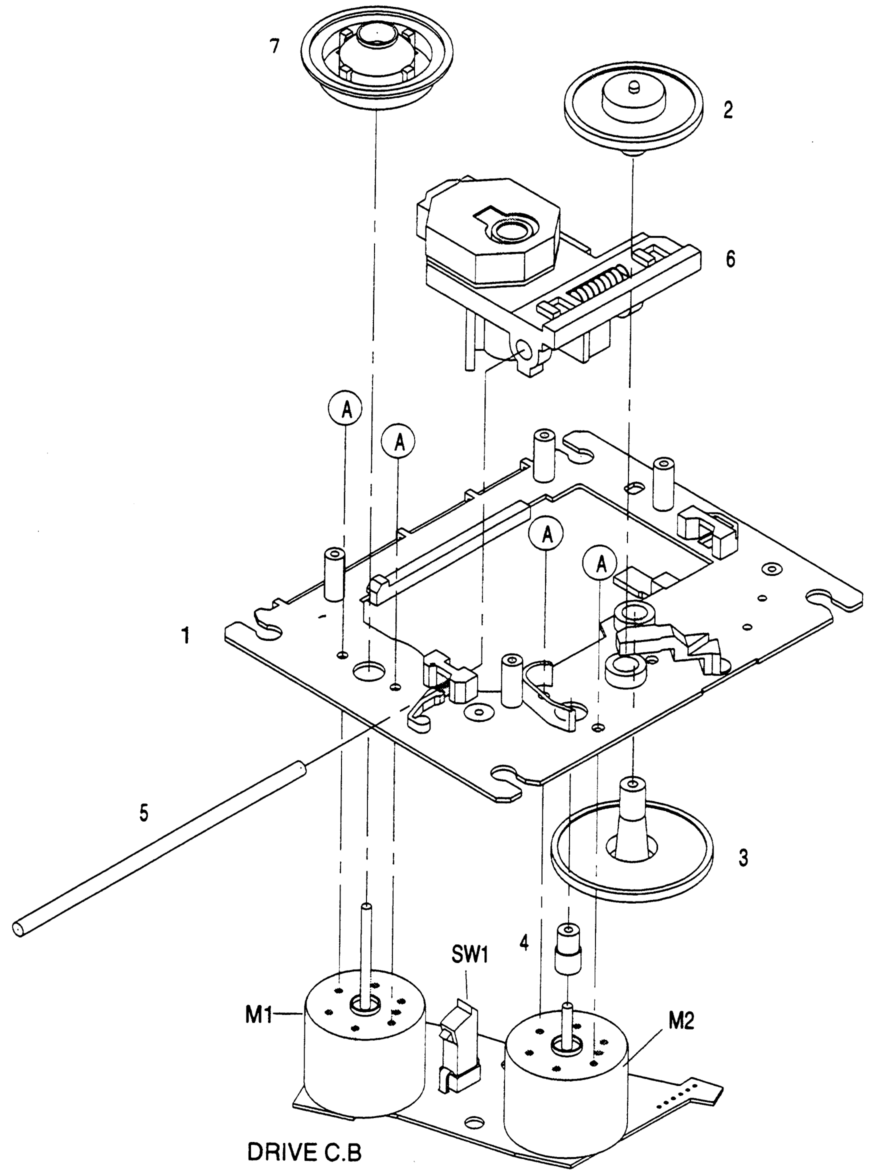


CD MECHANISM PARTS LIST 1／1 (KSM-2131BAM <1D, 1MD>)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	ｶﾝﾘ NO.	DESCRIPTION	REF. NO	PART NO.	ｶﾝﾘ NO.	DESCRIPTION
1	9X-262-587-110	--	MOTOR CHASSIS ASSY	A	97-621-255-150	0E	SCREW+P2-3
2	92-626-907-010	--	GEAR(A)				
6	98-848-379-310	--	OPTICAL PICK UP KSS-213B				
7	92-626-908-010	2A	SHAFT SLED				
8	92-627-003-010	--	GEAR B				

CD MECHANISM EXPLODED VIEW 1／1 (3ZG-2 C7N <2D>)



CD MECHANISM PARTS LIST 1／1 (3ZG-2 C7N <2D>)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	カンリ NO.	DESCRIPTION	REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	83-ZG2-202-71K	1C	O-SERT S ASSY,S	5	83-ZG2-207-119	1A	SHAFT,SLIDE
2	83-ZG2-204-419	0E	GEAR,A	6	87-070-445-010	2C	PICK-UP,KSS-213B
3	83-ZG2-205-219	0E	GEAR,B	7	83-ZG2-233-019	1B	TURN TABLE,A5
4	83-ZG2-220-01K	0E	GEAR,MOTOR 2	A	87-261-032-219	0E	SCREW V+2-3

USE MODEL LIST

CX-NA92 (NSX-A92)
CX-NMT90 (NSX-MT90)
CX-NAV95 (NSX-AV95)
CX-NA71 (NSX-A71)
CX-NMT70 (NSX-MT70)
CX-NAV85 (NSX-AV85)
CX-NA50 (NSX-A50)
CX-NS50 (XG-S50)
CX-NA51 (NSX-A51)
CX-NS52 (NSX-S52)
CX-NMT50 (NSX-MT50)
CX-NAV75 (NSX-AV75)
CX-NK550 (NSX-K550)
CX-NH50 (XR-H5MD)
CX-NA30 (NSX-A30)
CX-NS30 (XG-S30/NSX-S30)
CX-NA31 (NSX-A31)
CX-NA34 (NSX-A34)
CX-NS33
CX-NS32
CX-NS35
CX-NA35
CX-NS36
CX-NAV65 (NSX-AV65)
CX-NAV66 (NSX-AV66)
CX-NH3MD (XR-H3MD)

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER
サージサプレッサ	SERGESUPPRESSOR
セラコン	CAP,CERA

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL
ジグアーム	ARM,SHAFT
ジグガイド	GUIDE,SHAFT
ストラップ	STRAP
トクナベ	S-SCREW
ヒンジ	HINGE
ヒンジビス	S-SCREW
ビスセレート	SCREW,SERRART

サービス技術ニュース	
番号	連絡内容
G－　－	
G－　－	
G－　－	

912162

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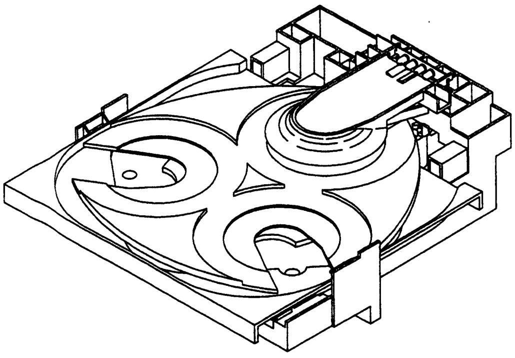
aiwa

aiwa SERVICE

4ZG-1Z



CD MECHANISM

• BASIC CD MECHANISM: KSM-2131 BAM / 3ZG-2 C7 • TYPE: English,Japanese

SERVICE MANUAL

CORRECTION

BASIC NAME	DERIVATION NAME					
4ZG-1Z	1D	2D	1MD	–	–	–

- ■ This Service Manual is replaces “CORRECT Manual”(S/M Code No.09-973-187-50T).
- ■ 本体マニュアルは(S/M Code No.09-973-187-50T)の訂正版です。

■ "このサービスマニュアルにはCDメカニズムの説明は含まれていません。CDメカニズムについては4ZG-1 (S/M Code No...........)のマニュアルを参照して下さい。"の別冊マニュアルの使用文のS/M Code Noに誤りがあります。

(正) 09-973-187-50T ← (誤) 09-974-187-50T

下記の機種の別冊メカニズムは09-973-187-50Tを使用又は取得をして下さい。

■ "The CD mechanism description is not included in this Service Manual. Refer to 4ZG-1 (S/M Code No. ....) for description of CD mechanism." Please correct the S/M Code No. as shown below as there was mistake in the description of separate manual.

(Correct) 09-973-187-50T ← (Error) 09-974-187-50T

Please obtain and use the separate manual using the Code No. 09-973-187-50T.

1. 09-978-216-8FE (NSX-S50)
2. 09-978-220-4FE (NSX-AV75)
3. 09-978-195-5FP (NSX-AV96)
4. 09-978-220-3FE (NSX-AV75)
5. 09-973-182-5FP (NSX-A71/S70/S74)

6. 09-975-193-5FP (NSX-S70/S74)
7. 09-974-181-9FP (NSX-A92/A94/S90/S94)
8. 09-974-160-3FE (NSX-A30/A31/S33)
9. 09-976-181-6FE (NSX-AV65/AV66)
10. 09-976-186-6FP (NSX-MT70/MT75/AV85)

11. 09-976-207-0FP (NSX-A72/A74)
12. 09-977-190-4FP (NSX-S90)
13. 09-976-181-5FE (NSX-S30/S32/S33/S35/S36)
14. 09-977-202-7FE (NSX-S22/A22)
15. 09-976-188-4FE (NSX-AV75/NMT50/NMT55)

16. 09-977-181-7FP (NSX-AV95)
17. 09-978-206-6FP (NSX-AV85)
18. 09-978-215-8FE (NSX-S22/S23/XG-S22)
19. 09-978-220-2FE (NSX-S52)
20. 09-977-212-8FE (XG-550/NSX-S52)

21. 09-978-181-4FE (NSX-S32/S33/S36/S37)
22. 09-978-213-4FP (NSX-S74)
23. 09-979-222-5FE (NSX-S22)
24. 09-979-214-1FP (NSX-S94/S95)
25. 09-979-219-1FP (NSX-S90)

26. 09-979-225-2FE (NSX-A66)
27. 09-97A-222-7FE (NSX-S38)

お詫び

09-983-257-90Tで発行したCORRECTIONの表現方法は誤解を生じる為、廃棄して下さい。

Notice

Please discard the CORRECTION issued under 09-983-257-90T in order to avoid the expression which can cause misleading.

サービス技術ニュース	
番号	連絡内容
G— —	
G— —	
G— —	

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